A SUMMARY REPORT

OF THE

NATIONAL CONFERENCE

ON

COMMUNITY BASED STRATEGIES

FOR

ENERGY MANAGEMENT AND DEVELOPMENT

St. Paul, Minnesota

October 30 - November 2, 1983

Assembled and Edited by
*
Zafar Ahmed

* Volunteer reporters and recorders are listed on page 78.

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Conference Sponsors

West Side Energy Conservation Company, St. Paul, Minnesota
The Neighborhood Energy Projects, St. Paul, Minnesota
Lexington-Hamline Community Council, St. Paul, Minnesota
East Side Neighborhood Development Company, St. Paul, Minnesota
Tool Lending Library, St. Paul, Minnesota
Saint Paul Department of Planning and Economic Development
U.S. Department of Housing and Urban Development (HUD)
Minnesota Conference of Local Energy Officials (CLEO)
Metropolitan Council of the Twin Cities, Minnesota
Minnesota Department of Energy and Economic Development
Center for Urban and Regional Affairs, University of Minnesota, Minneapolis, Minnesota

Co-Sponsors/Cooperating Organizations

NCAT National Center for Appropriate Technology, NCAT, Butte, Montana
Midwest Energy Education Consortium, St. Paul, Minnesota
Office of Planning and Development - Energy Exchange, Hennepin County, Minneapolis, Minnesota
Environmental Action Foundation, Washington, D.C.
National Jobs in Energy Coalition, Washington, D.C.
Institute for Local Self-Reliance, Washington, D.C.

PREFACE

The National Conference on Community Based Strategies for Energy Management and Development grew out of the 1980 St. Paul Energy Mobilization. A major part of this mobilization was a survey of 33,000 households and 651 businesses; 67 percent of the household respondents indicated an interest in participating in a neighborhood/business organization to deal with energy conservation issues. As a result, the St. Paul Energy Office, with funding and active cooperation from HUD, selected four neighborhoods and a city-wide project as the components for the Innovative Neighborhood Energy Conservation Program. The neighborhoods -- Lexington-Hamline, Snelling-Hamline, West Side and East Side — formed energy companies to conduct their conservation activities. These energy companies were the prime sponsors of the conference.

The resource persons for the conference were invited because they fulfilled a specific interest of the neighborhood energy companies and/or the Minnesota Conference of Local Energy Officials (CLEO), an associate sponsor of the conference. The National Jobs in Energy Coalition, the Institute for Local Self-Reliance, and the Environmental Action Foundation, as well as Minnesota CLEO were very helpful and generous in their efforts to identify appropriate resource people.

The Conference Planning Committee wishes to acknowledge the substantial contributions of Tom Feeney, HUD Area Office; James Bellus and Bill Patton, St. Paul Department of Planning and Economic Development; Tom Anding, Center for Urban and Regional Affairs, University of Minnesota; Jim Uttley and Gary Dodge of Minnesota CLEO; Jerry Isaacs, Metropolitan Council of the Twin Cities; Mark Schoenbaum, Minnesota Department of Energy and Economic Development; Brian Shovers, National Center for Appropriate Technology; Molly Redmond, Midwest Energy Consortium; Bob Miller and Jim Ford, Hennepin County Energy Exchange; and Jean Mehle, League of Minnesota Cities. Finally, to all the resource persons and session moderators an additional word of thanks. The conference evaluations indicated unanimously that the conference should be repeated again in 1984-85.

The Center for Urban and Regional Affairs produced and duplicated the conference report. The report was assembled and edited by Zafar Ahmed, supported by a CURA grant, who directed a team of session recorders listed on page 78. Sessions were also recorded on cassette cartridges and can be ordered, along with additional copies of this report, from the St. Paul Department of Planning and Economic Development, Attention: Jane Gross, 1420 City Hall Annex Building, St. Paul, MN 55102. Those volunteers who helped record each session are

listed on page 78. A special thanks to Valerie Galajda who assisted as an invaluable volunteer in the final days of preparation for the conference.

The National Energy Conference Planning Committee
Councilman Jim Scheibel, St. Paul, Minnesota
Ron Hick - Lexington-Hamline Community Council
Bob Kessler - St. Paul Planning and Economic Development
Linelle Kline - St. Paul Planning and Economic Development
Tom Gilshannon - West Side Energy Company
Mary Williams - Project by Design - Conference Coordinator

OVERVIEW

As indicated by the listing on pages 5-11, conference sessions were arranged by five major topics. These topics were : (I) New Developments in Energy Technology; (II) Case Studies of Community Based Energy Projects; (III) Public/Private Policies for Community Based Energy Projects; (IV) Community Economic Development Models and Strategies; (V) New Models for Energy Supplies. The session summaries which begin on page 12 are arranged in the order presented at the conference and, therefore, grouped by these topics.

The conference had two purposes. First, to report the results of the Innovative Neighborhood Energy Conservation Program in St. Paul. Second, to promote the continued development of the community based energy conservation projects through sharing technical expertise and models from across the country. Conference planners assumed that this continued development depended on knowledge of not only the technologies and economies of energy production and conservation, but also legal and political devices for planning, organizing and operating successful community based companies.

I. New Developments in Energy Technology presented at the conference included means to achieve close to 100 percent dependency on solar for northern tier houses (1)*, to prefabricate superinsulation systems (2), to reduce radiant heat buildup (4), to combine thermal and acoustical treatment of buildings (6), to operate commercially viable and energy conserving but small northern tier greenhouses (3). Energy technologies mentioned in other sessions included: energy efficient new housing affordable to very-low income families in Kentucky (12), a trash-burning steam generation plant in Red Wing, Minnesota (17), experiments by NSP on wind generators (33), and the St. Paul district heating system (7). A recurring theme in these presentations, which was also sounded in the keynote address (6), was the need to take an integrated approach and combine technologies for maximum benefit such as achieving thermal insulation along with noise reduction (5), using radiant heat reduction techniques with other energy conservation measures (4), using the waste product of one process as the raw material for another (6), etc.

II. Case Studies of Community-based Energy Projects at the city-wide level included district heating (7), a solid waste boiler facility (17), a tool-lending library (18), and a house doctor program (16). Projects at the neighborhood level included RCS audits (9,13), interior and exterior superinsulation retrofits (9,11), assuming the role of the housing authority for rehabilitation services (8), operating a solar construction and installation company (8), neighborhood workshops and conservation demonstrations (8,9,10,11,13,15). Other models were a rural superinsulated low-cost housing construction program(12), an energy and housing resource center for coalitions of neighborhood groups (10,14).

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* These number refer to the individual presentations that are summarized beginning on page 12.

A trend noted frequently is the movement towards income generating projects. Many of the successful organizations had identified one or more means to generate dependable revenues which could be ploughed back to various projects -- acquiring and renovating low-cost neighborhood properties (8), commercial greenhousing (3), selling steam generated by municipal trash while also burning the trash of other communities for a fee (17), setting up municipal solar utilities (31), bulk purchase and sale of conservation materials and fuels (32). Such projects help free the organizations from the precarious dependency on grants and foundations.

III. Public/Private Policies for Community-based Energy Projects offered various options to decrease energy price vulnerability and increase self-sufficiency at the local level (6,7,28,16,31,32,34). These included a strategy of import substituton (6); close linkage of energy conservation and economic development strategies (26); cultivating a home-grown economy (34); municipally-initiated workshops, demonstrations, and delivery of conservation measures (as in Minneapolis, 16,23,24) and/or initiating these activities through neighborhood organizations (as in St. Paul, 9,13,34). Several presentations offered connections between energy conservation/self-reliance and the process of local empowerment and democratization as well as the broader issues of environmental protection and human survival (6,7,10,28).

Current government policies and regulations clearly reflect the results of citizen organizations mobilizing to support energy conservation legislation. Enactment of new building codes (16,23) or by-passing non-essential ones (12) were discussed. The implementation of PURPA by NSP was presented (33), the RCS program was analyzed both critically (20) and positively (9,13). The need for continued, concerted, and coordinated advocacy was stressed (20,35).

IV. Community Economic Development Models and Strategies were placed in an analytical framework which included the elements of a successful economic development strategy (26). Community economic development was consistently presented as more than merely creating employment but encompassing issues of import substitution, economic stability, and the distributional aspects of empowerment and the capacity for democratic involvement.

The community development corporation (CDC), or variants with the same organizational and management structures, was offered as a form to achieve the broader economic development goals of neighborhoods in the 1980s. It was argued that CDCs can garner grass-root support and channel local activism, provide a legal entity which can deal with financial institutions and organs of government, enter into partnerships with other agencies involved with energy and economic development issues, nurture and strengthen small businesses as the means of economic growth and rejuvenation in the cities and neighborhoods and, ultimately, provide the nucleus for political strategies to shape policies and legislation conducive to a more energy-conserving and self-reliant future. These activities were exemplified in many of the presentations (8,9,10,11,13,14,15,31,32).

Several sessions were devoted to tactical and strategic guidelines for CDCs and other community based economic development organizations (26,27,29,30). The importance of partnerships was also stressed. Here the role of state and city agencies as catalysts aiding in the convergence of apparently diverse interests was underscored (7,9,13,16,17,18,22,23,24,28,34). Partnerships with utilities are used frequently and both organizers of CDCs and representatives of utilities presented their respective views (13,20,21,31,32,33).

The continued existence and effectiveness of community organizations, and especially CDCs, depend to a large extent on their economic health. Several sessions were devoted solely to financing of community based energy strategies: the role of private foundations was discussed (19); as well as building and sustaining relationships with banks and other sources of capital; the importance of planning cash flows and meticulous bookkeeping was argued (27,29); exploring for-profit subsidiaries was encouraged as was careful market analysis (29).

One pitfall frequently recommended for close attention was that in trying to be efficient and business-like, the community organization runs the risk of losing its grass-roots support and alienating the constituency it aims to help. The quality of leadership, the kinds of programs the organization runs, and careful efforts to keep the community's people informed and involved were suggested as important factors in this relationship.

V. New Models for Energy Supplies brought together many of the earlier concerns and recommendations when presenting specific mechanisms and examples for establishing municipal solar utilities (31), cooperative purchasing of bulk fuel supplies (32), and small scale energy production (33).

As presented by the synthesis panel, two themes ran through the conference. First, organizational concerns have replaced technological problems. The questions of reliability and economic feasibility about energy technologies, which were raised a decade ago, have by-and-large been answered. Reliable and economically attractive options are now available. The question is, "How can neighborhood-based energy organizations achieve economic endurance and independence without losing their citizen base and political effectiveness?" Neighborhood organizations must speak to and, in some measure, satisfy a broad spectrum of interests; economic independence depends on making hard decisions about the distribution of limited resources. To succeed over the long run, the organization must be able to balance these contradictory needs. Further, neighborhood organizations must contend with their constituents' political demands for immediate results while being involved simultaneously in long term financial strategies to benefit the local economy. What particular kind of organizational form is best able to meet the economic, political, and energy conservation needs of community residents remains a contended question.

Second, virtually all participants spoke in varying ways to the recognition that energy use is ultimately a political question. While individual initiative has accomplished much in conservation, it can only accomplish so much. Government policies and regulations play a critical role in the effectiveness of conservation efforts and the growth of local self-reliance. It is unfortunate that while the energy conservation industry is developing rapidly, national energy policy is not encouraging consumer response. Where state and local policies have been supportive and aggressive, as exemplified by Minneapolis and St. Paul, individuals and neighborhood groups have responded with enthusiasm and creativity.

LISTING OF CONFERENCE SESSIONS

SUNDAY, OCTOBER 30

I. **New Developments in Energy Technology**

1.* Second Generation Solar House Design
Bob Star, Lyndonville, Vermont

2. Superinsulation Prefab System
Tom Currier, Reshelter Research Company
St. Louis, Missouri

Moderator: Ron Hick, Lexington-Hamline
Community Council, St. Paul, Minnesota

3. Northern Energy Conserving Greenhouse
Jim Wylie Detroit Lakes AVTI
Detroit Lakes, Minnesota

4. Radiant Heat Reduction Techniques
Chris Strand, Conservation Unlimited
Austin, Texas

5. Combined Thermal and Acoustical Treatment of Buildings
Al Perez, Northern Sound
New Brighton, Minnesota

Moderator: Al Lessik, East Side
Neighborhood Development Company
St. Paul, Minnesota

6. **Keynote Address**
David Morris, Director
Institute for Local Self Reliance
Washington, D.C.

MONDAY, OCTOBER 31

7. **Welcome**
Mayor George Latimer, City of Saint Paul

Moderator: Bob Kessler, St. Paul
Department of Planning and Economic Development

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* Numbers identify individual presentations that are summarized beginning on page 12.

II. Case Studies of Community Based Energy Projects

8. West Side Community Development Corporation
   Valerie Pope Ludlam
   San Bernardino, California

9. Lexinton-Hamline Community Council
   Joan Derifield
   St. Paul, Minnesota

10. Baltimore Jobs and Energy Coalition
    Dennis Livingston
    Baltimore, Maryland

11. East Side Neighborhood Development Company
    Sherrie Pugh
    St Paul, Minnesota

12. Frontier Housing Corporation
    Tom Carew
    Moorhead, Kentucky

13. Neighborhood Energy Project
    Julie Close
    St. Paul, Minnesota

14. Center for Neighborhood Technology
    Scott Bernstein
    Chicago, Illinois

15. West Side Citizens' Organization Energy Company (WSCO)
    Tom Gilshannon
    St. Paul, Minnesota

16. Minneaspolis House Doctor Program
    Iric Nathanson
    Minneapolis, Minnesota

17. Red Wing Comprehensive Energy Program
    Dean Massett
    Red Wing, Minnesota

18. Tool Lending Library
    John Kaluza
    St. Paul, Minnesota

19. **Luncheon Presentation:**
Private Foundation Participation in Energy and Jobs

John Taylor, President
Northwest Area Foundation
St. Paul, Minnesota

Moderator: Tom Gilshannon, Director,
WSCO Energy Company

III. Public/Private Policies for Community Based Energy Projects

20. **Public Policy for Community Based Energy Projects and Regulated Utilities** (Panel Discussion)

Marcia Janssen
Minnesota Department of Energy and Economic Development
St. Paul, Minnesota

Margaret Morgan Hubbard
National Jobs in Energy Coalition
Washington, D.C.

David Moulton
Energy Conservation Coalition
Washington, D.C.

Moderator: LuAnne Nyberg
Minneapolis Urban Coalition
Minneapolis, Minnesota

21. **Partnerships and Ventures between Utilities and Communities** (Panel Discussion)

John Wilbur, Lutheran Housing Corporation
Cleveland, Ohio

Tom Griffin, Energy Resource Center
Saint Paul, Minnesota

Dina Hunter, Southern California Edison
Rosemead, California

Archie Murray, Pacific Gas and Electric
San Francisco, California

John Sweney, Minnegasco Energy Bank
Minneapolis, Minnesota

Moderator: Karen Swenson
St. Paul City Council Research Office
St. Paul, Minnesota

22. **New Approaches to Marketing Energy Audits for Small Businesses Including a Role for Bankers and Engineers**

Jock Robertson
Energy Account Managers
St. Paul, Minnesota

Mark Leutgeb
Energy Account Managers
St. Paul, Minnesota

A. William Sands, Jr., President
Western State Bank
St. Paul, Minnesota

Moderator: Mark Schoenbaum
Minnesota Department of Energy and Economic Development

23. **Multiple Family Building Audits**

Chris Copp
Minneapolis Energy Coordinator's Office
Minneapolis, Minnesota

24. **Residential Energy Workshop Demonstration**

Lola Schoenrich
Self Reliance Center
Minneapolis, Minnesota

TUESDAY, NOVEMBER 1

Welcome

25. Joan Campbell, Vice Chair
Metropolitan Council of the Twin Cities

Moderator: James Bellus, Director
Department of Planning and Economic Development
St. Paul, Minnesota

IV. Community Economic Development Models and Strategies

26. Elements of Successful Economic Development Strategies

Stewart Perry
Institute for New Enterprise Development
Cambridge, Massachussets

Reactor Panel

Milt Nichols, Special Assistant to the Chair
Metropolitan Council of the Twin Cities

Mara O'Neil
Minneapolis American Indian Center
Minneapolis, Minnesota

Valerie Pope Ludlam, Executive Director
West Side Community Development Corporation
San Bernardino, California

Discussion

27. What are the Requirements of Capital Strategies: The "Care and Feeding" of Lenders

Mike Rivard, Finance Packaging Specialist
Minneapolis, Minnesota

Dan Horvath, President
Community Equity Investment, Inc.
Pensacola, Florida

Reactor Panel

Warren Hanson, Director of Business Development
West Bank Community Development Corporation
Minneapolis, Minnesota

Ann Waterhouse, Private Consultant
Minneapolis, Minnesota

Al Emory, Deputy Director of Business Revitalization
St. Paul Department of Planning and Economic Development

Discussion

28. **Luncheon Presentation:**
Community Based Energy and Development Strategies for States

Paul Wellstone, Governor's Special Representative for
Community Energy Projects

Moderator: Ron Hick, Coordinator
Lexington-Hamline Community Council
St. Paul, Minnesota

29. **Management Strategies and Techniques:**
How to Make Money with a Nonprofit Corporation

Bill Hatton, Economic Development Specialist
Minneapolis, Minnesota

Dan Horvath

Moderator: Jerry Jenkins
Community Development Coordinator
Department of Planning and Economic Development
St. Paul, Minnesota

30. **Panel Discussion: Practical Applications**

Stewart Perry, Mike Rivard, Dan Horvath and
Bill Hatton

WEDNESDAY, NOVEMBER 2

V. New Models for Energy Supplies

31. **Alternative Energy Authorities: e.g. Municipal Solar Utilities**

Barry Saitman, Enterprise Concept Group
Los Angeles, California

32. **Coordinated Bulk Purchasing Strategies**

Steve Cowell, Director
Economic Development Department
Massachusetts Fair Share
Boston, Massachusetts

33. **Small Scale Energy Producers, PURPA and Utilities**

Mike Rogers, Engineer
Northern States Power Company
Minneapolis, Minnesota

34. **St. Paul's Home Grown Economy Project**

Dick Broeker, Executive Assistant to the Mayor
St. Paul, Minnesota

35. **Synthesis Panel: What Are Our Directions for the Future?**

Dennis Livingston
Baltimore Jobs and Energy Coalition
Baltimore, Maryland

Gary Dodge
Vice President, Minnesota CLEO
St. Paul, Minnesota

Angie McCaffrey
Lexington-Hamline Community Council
St. Paul, Minnesota

Rich Mahony
Aide to Mayor Latimer
St. Paul, Minnesota

Moderator: Fred Smith
Center for Urban and Regional Affairs (CURA)
University of Minnesota

Adjourn

SESSION SUMMARIES

I. NEW DEVELOPMENTS IN ENERGY TECHNOLOGY

1. Second Generation Solar House Design
Bob Star
Lyndonville, Vermont

Bob Star is involved in solar heating research in north-east Vermont with design challenges similar to those in Minnesota. His most recent research with a hybrid system aims to benefit from elements of both active (in terms of collection and storage) and passive (in terms of reduced costs) systems. The hybrid system is similar to conventional solar space heating systems in that it employs flat plate collectors, heat exchangers and pumps, and a storage area. The main difference is in the simpler storage design: it is accomplished as part of the building design through the construction of a two foot gravel and concrete slab floor as opposed to a water storage tank used in most conventional solar systems. The new system requires a smaller collector area, only one pump as opposed to several, and does not require a storage tank for water. It consists of a manifold box, tubing, pump, check valve, something to fill and drain the system and an expansion tank and pressure valve.

Another design aspect is the use of vertical collectors which in cold climates capture 40 percent more solar energy from snow reflection, 20 percent more in dirty snow and 10 percent from the ground.

The cost of the hybrid solar system is about $7,000, comparable to a wood/oil system and cheaper than conventional heating systems and even other solar systems because of the low cost of the storage system which is really part of the building construction cost. Because of greater efficiency, the fewer solar collectors needed also lower costs.

The hybrid system is more efficient because the large mass involved allows lower operating temperatures. Also the fewer pumps, exchangers and collectors lower energy loss. Long thermal storage of this system approaches 100 percent dependency on solar as opposed to 50 percent for conventional solar. These homes also need about 60 percent less air conditioning. Other advantages are the comfort of a heated floor, greater flexibility in architectural design because of fewer collectors to locate and fewer maintenance problems due to its simplicity.

Future areas of interest would be to incorporate this design into buildings with basements, to expose greater slab depths, and to investigate cooling applications.

The following were responses to questions from the audience:

- The concrete floor is about 3°o warmer than the room temperature.
- A heat input of 120 percent of the calculated load is needed on a monthly basis to achieve close to 100 percent reliance on solar energy.

- Auxiliary heating is provided by a 2 KW electric baseboard system.

- Existing structures have used the design by building additions.

- A vapor barrier is placed in between the gravel and the concrete slab.

2. **Superinsulation Prefab System**
Tom Currier
Reshelter Research Company
St. Louis, Missouri

In 1980, several neighborhood organizations and a St. Louis Bank formed the Hyde Park Partnership, a non-profit organization, to redevelop 66 square blocks on the near north side of St. Louis. The Partnership contracted with Reshelter Research Company to incorporate energy conservation measures into the rehabilitation of one of its buildings. Because the building was located in a historic district, alteration of its exterior was restricted. Reshelter Research thus approached the 3-bay rowhouse renovation as a super insulation project with the objective of creating an efficiency that would reduce reliance on a back-up heating system. The rowhouse is currently used as an information center for the Hyde Park Partnership.

Insulation was mainly achieved by use of prefabricated panels developed by Reshelter Research. These four by nine foot panels are laminated and consist of 1/2 inch drywall, 1/2 inch plywood and 1 1/2 inch polystyrene. 7/8 inch trim around the side of the panel forms a groove for the 2 x 4 splines which connect the panels. Each panel weighs approximately 125 pounds.

In using this system, an absolutely level surface is needed to set the panels. Because the rowhouse walls were out of plumb, a template was transit lined and shimmed around the perimeter of the rooms to level the walls. Two by twos were nailed to the template to form a groove in which to insert the panels (a time-consuming process).

Cold contact cement was used to construct the panels here, but Currier would not repeat this because the cement shifted while the panels were stacked to cure. This required them later to be trimmed. (The panels can be cut with a circular saw.) Exoltherm, a new product by Koppers, will be used in the future to alleviate this problem. Exoltherm with an R-value of 8.2/inch also reduces the need for additional insulation to be used.

The panels were placed approximately seven inches from the wall, leaving additional space for electrical wiring and cellulose insulation which was blown in from the ceiling. (A baseboard electrical system would have saved $1200.) Two-foot panels were cut and fitted to the nine-foot panels to achieve an 11 foot height on the ground floor. Windows were cut before the panels were erected, but in the future they will be marked and cut once the panels are in place so that panels do not lose their rigidity.

A vestibule was made for an airlock. For floor treatment, space was provided for 6 1/2 inches of polystyrene and 2 inches of elasticell (self-leveling concrete). Foam boards were placed over the existing floor. Holes were cut for plumbing and innertherm units were wired in as required by code. Wire mesh was laid on top of the polystyrene and the elasticell was added on top of that.

The garret on the second floor ceiling was too low to allow for additional insulation so the space between the panels and ceiling were left as storage space.

Four Heatex changers (one large, and three small) provide ventilation. Ventilation registers allow for natural convection between the first and second floors.

Energy efficiency in the windows was achieved by superfenestration. Superfenestration makes use of double-hung windows with a leveller blind coated black on one side and white on the other hung in the plenum. In the spring and fall both windows are left open to provide natural ventilation. In the winter, the inner windows are left open during the day to take advantage of solar gain. In the evening, the windows are shut and the blinds are shut with the reflective side facing in. In the summer, the outer windows are open for natural cooling. Aluminum window frames could have reduced infiltration and lowered costs. Due to the design restrictions of the historic district they were not used here.

The cost of superinsulating this 2,000 square foot building was $25,000 (including labor) which is $15,000 above the cost of a conventional insulation system. Currier expects a 10 year pay back period to recover the additional material and labor costs due to a saving in energy. The total heating bill for the building over a one year period was less than $100. The following efficiencies were achieved: R-68 ceiling, R-52 walls, R-32 first floor, R-6 windows.

3. Northern Energy Conserving Greenhouses for Community Development

Jim Wylie
Detroit Lakes, Minnesota

This is the only program of its kind left in the country but it is a neglected source of production.

Gardening is conceived in a five-fold progression:

1) Serious gardening — at home, growing enough to supply neighbors in season; can be competitive for market gardeners.

2) Market gardening -- where one actually sells the produce on stands or to local stores; not as bad around cities because of a bigger market.

3) Extended season -- involves using some sort of technique to extend the growing season; one technique is a low tunnel built over the crop rows to keep plants sheltered; this could be used on crops like cauliflower, lettuce, broccoli; another method is putting simple

heating pipes or coils in the ground to ward off frost -- good for tomatoes, cucumbers, peppers.

All three of these help small or part-time gardeners to develop skills.

4) Greenhouses -- one needs to keep costs to about $5/sq. ft. in order to make a go of it; difficult to get investment capital so skills are very important; acts of God, important in #1 - 3 above, are now replaced by the problem of management and total environmental control.

5) Horticultural support -- selling services and supplies, etc. rather than concentrating strictly on production; peat companies are an example; most started in the '30s; there is a void in mature horticultural business right now as older professional gardeners retire.

Three production schemes are possible for community development agencies planning a gardening project:

1) Household food production -- the chief limitation is training; it is hard to develop the widespread "do-it-yourself" skills to make this more efficient than larger scale production and there are few remaining horticultural programs in the nation which teach how to operate small scale food production systems.

2) Cottage business -- this is the preferred size; freestanding greenhouse of about 1,000 - 12,000 sq. ft. usually starting on a shoestring and growing larger: 12,000 is a threshhold between part-time/full-time.

3) Vocational -- usually expectations outstrip abilities at community level; developing community greenouses per se needs co-op management skills which are difficult to develop.

There are seven objectives to apply to the three categories above:

1) Quality of product -- people will be loyal to good quality; this ties into the income objective whereby locally sold quality produce turns over local wealth (multiplier argument).

2) Local market -- benefits accrue as argued above, but if one can export some of it, it brings in wealth.

3) Employment -- helps generate local employment of all kinds (managers, pickers, etc.).

4) Revenue overturn -- the multiplier effect will help create local "middle class."

5) Tax base -- increased.

6) Environmental support -- it is a clean industry; the only pollution possibility is fertilizer pollution of the water, but this is easily solved.

7) Nutrition -- imported foods lose a lot of nutrients in transportation; right nutrient growing programs help local diets.

There are two ways to start up a business:

1) "Struggle approach": preferred because one will not get bigger than one's management ability.

2) Investment approach: it is not owner-operated and there is too much pressure from investors.

One should be aware of the risks in setting up a greenhouse operation. These include:

1) Not enough start-up capital

2) Excessive initial investment, i.e. too much debt

3) Limited abilities

   a) general financial skills
   b) production skill
   c) character skills (i.e. ability to "struggle")

4) Regulations -- meeting building codes, etc.

5) Operating capital shortage

6) Unexpected production losses

7) Unrealistic expectations -- not all crops will be successful (say 2 out of 3)

8) Crisis -- eg. energy "crisis"

9) Unheeded advice

10) Community support

11) High tech vs. grow tech

A slide presentation illustrated the various permutations that the above can take when put into practice. Noticeable is the tendency for operations to get larger with age as management skills improve. Also larger greenhouses have a lower surface area-to-perimeter ratio meaning greater energy efficiency.

4. **Radiant Heat Reduction**
Chris Strand
Conservation Unlimited Inc.,
Austin, Texas

The presentation (using slides) briefly discussed the background of weatherization to put into perspective radiant heat reduction techniques.

A. Major weatherization emphasis prior to 1980:

1) Insulation
2) Exterior caulking and weatherstripping
3) Active solar
4) ASHRAE and steady state loads

B. Emphasis gaining momentum after 1980:

1) Interior air infiltration control
2) Super insulation
3) Passive solar
4) City of Austin Energy Management Department

C. Conservation Unlimited's holistic approach and the first four of the "Big Five" areas of residential conservation. (Extensive use of slides from this point on.)

1) Air Infiltration -
Emphasis on attacking largest leaks and working down - slides showing problems and solutions.

2) Insulation -
Emphasis on throughness not quanity - showing overlooked areas and solutions.

3) Mechanical equipment -
Slides on maintenance, retrofitting and state-of-the-art equipment.

4) Hot and cold water conservation -
Slides on reduction products and solar hot water.

D. Solar shading or radiant heat reduction:

1) Whole house shading - trees

2) Window shading and shading coefficients

a) Exterior shades

- Overhang
- Trellis or lattice
- Awnings
- Solar screens
- Pull-down shades

b) Interior shading
   - Solar film
   - Aluminized shades
   - Shutters
   - Shades and draperies

3) Roof shading

   a) Radiant barriers
   b) Composition
   c) Color

4) Wall shading

   a) Radiant barriers
   b) Composition
   c) Color

5) Insulation

E. Passive cooling techniques

1) Reduction or evening of heat load

   a) Ventilation - bath, kitchen, whole house
   b) Laundry, cooking and other appliances
   c) Mass

2) Lifestyle - how to operate your home for maximum comfort.

5. **Combined Thermal and Acoustical Treatment of Buildings.**
Al Perez
Northern Sound, New Brighton, Minnesota

Noise pollution, especially from airports and highways, is increasingly being recognized as a problem. However, while both energy conservation and noise control share some common techniques, the two goals have seldom been combined. The problem stems from a lack of communication and the nature of the two phenomena: energy can be measured in physical terms while noise is measured in terms of the human responses to it.

Two kinds of acoustical problems and their control will be considered: doors/windows, and other holes.

The acoustical property of a partition is measured in terms of STC (Sound Transmission Class). Roughly, it is the difference in noise levels in decibels on either side of the partition. Thus, if the noise level outside a partition is 100 decibels and 50 decibels inside, the partition has a STC of 50.

Most windows in Minnesota have STCs around 20, and only a few manufacturers rate them acoustically. However, having acoustically good windows is important; increasing wall STCs reduces final noise level up to a point, but coupled with a low (say 20) STC window, any further efforts to reduce noise by increasing wall STC is fruitless. Thus, it is often the case that homes with superinsulated walls are not necessarily good acoustically. Therefore, windows should have the same STCs as the walls. Typical walls have a 50 STC while typical windows are below 40 STC.

Things to look for in acoustically good windows are: (a) sashed windows are better; (b) smaller glass areas are better; (c) glass thickness is not so important; (d) air spaces between double glasses are good acoustically but not good thermally.

Any outside holes (for ventilation, etc.) in a building are also a source of noise (as also energy loss) and the solution lies in acoustically treating the ducts with sound seals or boxes. The acoustical material to be used should have high sound absorbing properties measured by the NRC (Noise Reduction Coefficient) rating. If the material absorbs 80 percent of the sound impinging on it, its NRC is .8 (considered a good, acceptable rating).

A question for the future is: is there a demand for noise control? Studies have shown that it is the number one complaint of residents, and that people move mostly because of noise.

A pertinent application of the combined goals of energy conservation and noise control may soon be possible in the Twin Cities. Funds will be available through the Metropolitan Council to retrofit homes around the airport for noise control. This may also be a good opportunity to address energy conservation goals in these homes. The dual objectives are easily obtained at very little additional cost given the awareness.

Ultimately, every energy audit should also be accompanied by a "sound" audit.

6. **Keynote Address**
David Morris, Director
Institute for Local Self-Reliance
Washington, D.C.

A. Changes in rationale for energy conservation ten years after oil embargo:

1) Early 1970's argument was based on environmental concerns -- conservation, protection, etc.

2) Late 1970's argument was patriotic issues -- conserve energy to retaliate against the Arabs, Project Independence, etc.

3) Early 1980's rationales are much more practical; they concern economic growth, jobs development, etc. (city as an underdeveloped nation).

B. Reasons why current rationale for energy conservation falls on fertile ground:

1) Rationale is practical, addresses economic and developmental concerns.

2) Can affect substantially the balance of payments of the resource flow of a city:

a) Taxes are largest single item of most city resource flows; but a lot of this money comes back in various forms.

b) Energy is second largest item; in St. Paul approximately $1,300 per person.

c) Energy expenditures are among the worst since so little of each dollar spent on energy (5 - 15c) stays in the city; usually an average of 40 cents on the dollar stays in the local economy.

d) Energy, unlike some other expenditures, is something that can be reduced and even turned into an export base -- e.g. Sweden's decision to reduce oil consumption by 50%, not expand hydroelectric, and phase out nuclear with cities being the vehicle to accomplish the task; Sweden is now exporting energy conservation devices.

C. Import substitution at city level is dynamic economic strategy

1) As Sweden illustrates.

2) In U.S., energy efficiency industry had 1973 gross sales of $100 M.

3) 1978 saw $35 B in central power plant construction costs by investors and municipals; by 1983 that figure was down to $25 B and the small power generators, with negligible sales in 1978, were estimated to come in at $3 B.

4) Way to approach developing strategy is to ask "What is the best way to wring inefficiencies out of the present system?"

a) Neighborhoods for energy conservation because of peer pressure and need for local delivery base (though the "right" to do this at the neighborhood level only comes with a struggle).

b) Energy production is starting to dominate discussion -- infrastructure can be rebuilt with public works as producers of wealth (e.g. Modesto's methane producer; Anoka's plan to tap garbage methane; Hagerstown's cycle of methane extraction, residue to fertilize trees whose wood chips fuel electricity generator and used to produce methanol with residue as cattle feed; waste heat from electricity generation will heat hydroponic chambers used to raise vegetables) - "capturing the value added."

5) Cities increasingly are seeing themselves as energy producers:

a) Ann Arbor by 1990 expects to meet with hydropower all its electrical needs.

6) When waste of one process becomes raw material of another, this is essence of development and changes power relations.

7) Money for this can be generated from within the city through micro money market fund, city based shared savings plan.

D. How to focus on low income need (especially important since we are at a time when cost of operating old equipment is astronomical compared to that of new):

1) Shared savings plans of various kinds can be used to reduce cost.

2) Must deal with political issue of mandation (e.g. Madison - rental units must meet upgraded standards of energy conservation by a certain time).

E. Other desirable benefits/characteristics of soft energy path:

1) Can foster quantifiable, friendly competition -- BTU's/sq. ft./degree day for any number of category of buildings.

2) Leads to cooperation and sharing of information absolutely essential to change the rules of the game that are still stacked against small-scale production.

F. Concluding comments:

1) "Think globally, act locally" -- universities now offering global management training; question is "Will we be a global village or a globe of villages?" centralized, controlled or connected but independent.

2) To develop technologies to be locally self-reliant is to allow cities to live within their means and reduces need for 100 wars around the globe.

3) Bertrand Russell observed, "Change is inevitable, progress is problematic."

4) As Jefferson pointed out, self reliant producers enhance the strength of democracy; producers know how to do something, unlike a nation of clerks; for democracy, better to be a nation of producers of wealth rather than consumers of goods.

7. **Welcome**
Mayor George Latimer
St. Paul, Minnesota

Energy planning in St. Paul, an old and cold city, began earnestly after an "energy mobilization" program in February 1980 set out to find more about the use and loss of energy. Over 3 days, 3,000 people from neighborhood groups, corporations and city volunteers, surveyed 125,000 respondents. The heightened awareness regarding people's attitudes and reactions to energy use resulted in several concrete activities such as the neighborhood block program, the Energy Resource Center, the Energy Park and the Hot Water District Heating System.

The downtown St. Paul Hot Water District Heating System is a distribution system with energy savings equivalent to heating 10,000 homes. Targeted for completion next year, one year ahead of schedule and 10 percent under budget, it may be expanded to encompass residential neighborhoods nearby. It utilizes a flexible technology in that it is a distribution system for hot water generated by downtown businesses using coal as fuel; but it could just as easily be produced by non-traditional fuels like solar, waste, or wood. In fact, it is interesting that the first community to use this technology in Minnesota was Wilmar, demonstrating that even with small populations, the savings justify such a project.

Energy conservation must take a holistic, comprehensive approach involving not just residential units but medium technologies like the District Heating System and must involve all income groups.

St. Paul has been striving to decrease its dependence on "imported" fuel, increase the portion it currently retains (15 percent) from its energy bill (an annual export of about $0.5B), and also derive the benefits of labor-intensive energy conservation schemes. Because, beyond the economic development and neighborhood issues, are investment and employment.

The Energy Park in St. Paul, spanning 200 acres of unutilized land in the city, is an example of this broader perspective. Neighborhoods affected by the project have cooperated and successfully argued for housing appropriate for various income groups.

The Energy Resource Center has dealt with the problem of lack of incentives for the renters in undertaking energy conservation.

Two points need to be made. First, an energy secure future with traditional fossil fuels is not realistic. Second, it is very easy to justify energy conservation even with stable and not-too-high prices for traditional fuels.

Cities can and must be more self-reliant. This can be achieved by more realistic economic planning and an increased sense of community between and within neighborhood groups. Those involved in this effort are ultimately trying to enhance the human condition.

II. CASE STUDIES OF COMMUNITY BASED ENERGY PROJECTS

8. West Side Community Development Corporation
San Bernardino, California
Valerie Pope Ludlam, President

The West Side CDC is an outgrowth of a welfare rights organizing effort. Residents had been aware that most agencies with responsibilities for meeting needs of the neighborhood's welfare recipients were headed by men, and that most jobs paying decent wages went to men. After years of demonstrating for welfare reform, West Side CDC took over the county housing authority's role as a broker to provide decent housing. To date, the CDC, which employs 75 people, has trained 900 people and placed 450 of them on jobs.

When the CDC was formed, most housing in the neighborhood was not fit to live in, so the CDC has concentrated on saving the existing housing stock. Many houses had been boarded up; some of them were easily acquired by the CDC because their value was listed as $0. A typical house was bought by the CDC for $2,000, required $3,500 for improvements, and, after improvements, sold for $10,000.

Many houses rehabilitated by the CDC have been single family structures. However, the CDC upgraded a 10-house project, converted a motel to apartments for minority seniors who wished to remain in their own neighborhood, rehabilitated an office building which houses many community agencies, and moved an 8-unit subdivision on to vacant property. Many homes are rented with Section 8 subsidies.

CETA labor has been used successfully for all CDC projects. Supervision has been provided by retired or disabled skilled workers from the building trades. Financing for mortgages, acquisition, etc., has come from HUD, CSA, and sale of some units.

The CDC has been active in promoting use of solar energy. It manufactures and installs flat plate collectors for hot water. As the CDC has gained more experience, efficiency of the systems has risen from 30 percent to 60 percent. The batch heaters, once installed, are virtually maintenance free. The heaters are community-owned, as a solar utility. Tenants are educated on the wise use of energy, including solar energy (e.g., turning off the solar collector rather than keep it running).

The CDC has also experimented with solar space heating on some of its buildings, and with various types of collectors. It has a test site for solar electricity for DOE, providing data on weather and sunlight and measuring efficiency of various types of collectors. Electricity produced, which is not used in nearby buildings, is sold to the local utility. It has installed solar collectors for a farm-labor housing project in Palm Springs, which provides about 90 percent of needed hot water. The CDC has a greenhouse, which is 60 percent heated from solar energy, and which is used to grow vegetables for residents.

9. **Lexington-Hamline Community Council**
Joan Derifield
St. Paul, Minnesota

The Lexington-Hamline neighborhood is very small, about 12 by 5 blocks, most of which is residential. There are 750 households of all income levels; about 25 percent are minorities. Most housing stock is very old, turn-of-the-century, with a few houses built just prior to World War II.

Lexington-Hamline Community Council was formed in 1968 to work on neighborhood concerns. It now has 568 members, and has a good track record in working on housing, crime prevention, recreation, and related issues. Since 1973, LHCC has had an operating budget, and is an established part of the city's citizen participation network.

In 1977, the local utility raised electric and gas rates, and Community Council board members decided that something had to be done at the neighborhood level, because little available information applied to older housing stock. A task force evolved into the Energy Committee, which set three goals:

1) Education of people in the neighborhood
2) Providing appropriate technology to the neighborhood
3) Changing public policy

To educate, LHCC established an energy library, held workshops on low-cost, no-cost conservation techniques, put information in the local newsletter, and developed a list of local resource people.

To encourage appropriate technology, LHCC has established an alternative energy loan fund in cooperation with the City, and has done a demonstration interior superinsulation retrofit, a passive solar greenhouse, and several wood heat projects.

One of the most important tools in promoting energy efficiency has been RCS audits. Three hundred homes have been audited, and the effort is continuing. NSP charges $10 per audit; LHCC refunds this charge to neighborhood residents. In Minnesota, RCS audits go through utilities, so initial negotiations with NSP to permit community auditors to perform RCS audits were unsuccessful, despite arguments that people would be more receptive to a community auditor because they were not selling energy. LHCC trained 11 auditors according to state standards, were again rebuffed by the utility, and succeeded in obtaining a contract only after state rules for RCS audits were changed.

LHCC used funds from a deferred grant to establish a non-profit company, Old House Energy, Inc., which provides weatherization retrofits appropriate to older homes, of consistently high quality, at a price lower than that of private contractors. OHE has three employees and has done ten large jobs and several smaller ones to date. Work is done at cost and anyone is eligible, with priority to neighborhood residents. Deferred loans are available to residents.

In the area of public policy, LHCC has helped change both the RCS rules and the utility's attitude toward neighborhoods, has supported elimination or

rates under bond, and has given support to the 5 percent solution for people unable to afford utility costs. The Energy Committee hopes to intensify its public policy efforts in the future.

A key feature of LHCC's energy activities is that the decisions are made and the work is done by volunteers, individually and through the Energy Committee of the Council.

10. **Baltimore Jobs in Energy Project**
Dennis Livingson, Coordinator
Baltimore, Maryland

The Baltimore Jobs in Energy Project is a non-profit construction firm that employs five contract staff, four trainers and three administrative staff. The Project has a Board of Directors whose members represent neighborhood organizations the Project works with, construction crew members, technical people and the coordinators. The annual budget is $300,000 from clients, grants and Community Development Block Grants. The project goals are to develop models for worker-controlled, non-profit companies to mobilize neighborhoods to use energy as an issue, to provide conservation services, to shift state policy toward effective energy conservation for neighborhoods.

In Baltimore, low and moderate income people's homes have not been weatherized. This is not a technical problem, but a political one, resulting from a lack of political favor to counter existing concentrations of wealth and political power. The Baltimore Weatherization Consortium was developed over a two-year period to allow community organizations to remedy this problem.

THE BALTIMORE CONSORTIUM

The following is a rough outline of the Baltimore Weatherization Consortium as it is being developed. Ten percent of the money to be spent in Baltimore on low-income weatherization was earmarked for low-cost/no-cost installation. It is this money (amounting to approximately $400,000) that the consortium is requesting. We are still in negotiation about this. If the program goes through as planned, it will be organized as follows:

Contract - The consortium will contract with Urban Services (CAP in most cities) to implement four basic programs on a citywide basis. The purpose of the programs is to help community-based organizations (CBOs) to educate and mobilize their constituency and provide weatherization to people. Some of the weatherization will be temporary until they receive permanent work (there is a year's backlog), and some will supplement the permanent work.

The four programs are:

1) Large workshops, 40-100 people, sponsored by community organizations to take place in churches and community centers. There will also be follow-up on a large scale. Each participant will receive a kit.

2) Small workshops (about 10-20 people in people's homes. This will include a lot of hands-on training. A kit will be supplied. Organizing and follow-up will be done by the community organization.

3) The CHEC model (designed to replace the class A RCS audit used by mostly upper-income people in Maryland). This program consists of a walk-through audit and interview. A plan is tailor-made for that household's particular problems and they are shown how to use the kits. The kits are left with them and follow-up is done by the checker or the community organization.

4) The final program is exactly like the CHEC (above) but for elderly or disabled. The checker installs all the low-cost measures.

The kit consists of window kits (self-adhesive window "zip-lock" window strips and plastic), a hot water jacket, caulk and gun, rope caulk, aluminum/vinyl weatherstripping and door sweeps, a hack saw, etc.

The consortium was set up to avoid competition among community-based organizations for funds. It is clear that although CBOs could do outreach most effectively, administration, purchasing, training, etc. could best be shared. Without this sharing, overhead costs and a lack of coordination would kill the program. The consortium will become a 501 (c) (3) organization and continue to explore the new programs.

It is structured as follows: The Board consists of representatives from several community-based umbrella organizations, neighborhood and church groups and the service providers. There are four service providers. The group dealing with the finances (Baltimore Blueprint) has functioned for years helping communities with economic development programs. An organization that has been doing and designing workshops (Neighborhood Design Center) will coordinate the workshops. COPE, a fuel and weatherization buying coop, will handle all the purchasing, warehousing, inventory and distribution of materials. The Baltimore Jobs in Energy Project has been the group coordinating the network building over the last year. It will continue to strengthen and broaden the network, do training and work with other groups on technical and program details.

This model is designed for the unique situation in Baltimore, Maryland. It is in formation and will demand many changes. The model may be useless some places and will demand changes everywhere. Still we believe there are several principles that apply most places.

Without combining resources and constituencies at the neighborhood level, individual communities will never develop their own capabilities or have their particular needs successfully addressed. Although self-interest is an important motivation, such a consortium must be built on trust. This means that the leadership must have the strengthening of <u>all</u> the constituent organizations as its <u>first</u> priority.

Organizing such a consortium demands particular sensitivity to the unique needs of senior citizens, minority communities, unions, church groups, neighborhood organizations, women and environmental groups. Even if the participating organizations involved don't reflect these particular constituencies, they should be kept informed. (For example, unions are not now

involved in the Baltimore model, but we would like to see if some relationship could be developed in the future.)

As much as possible, no new organization should be created. It is the pooling and focusing of existing resources and organizations that strengthens community organizations and delivers services. (In Baltimore, every single function was picked up by an existing organization.) Sometimes if no organization is prepared to do a particular task, one could be chosen and helped to acquire such capacity.

Progressive community-controlled programs will rarely be enacted simply on the basis of their own merits. A well-planned popularly understood and supported advocacy and organizing effort is usually needed. Even when such effort does not seem necessary to the degree that there is broad support and understanding of a program it will be successful. It is therefore vital that organizing is done in close coordination with whatever coalitions exist (particularly groups such as Citizen Action). Toward this end it is important that all potentially active groups, even those not showing immediate interest, be kept informed of the process. This means sending them minutes of meetings (attaching explanations where necessary) and periodic updated histories of the process.

The Baltimore Jobs in Energy Project is the result of knowledge gained from groups throughout the country that have pioneered such work. Without this shared experience, what progress we've made would have been impossible. We hope to continue to work with people from the Twin Cities and other resource organizations to build a national network, a network that will not only continue to help on the local level but help to strengthen national organizations in their work with federal policy.

11. East Side Neighborhood Development Corporation
Sherri Pugh, Executive Director
Al Lessik, Project Director
St. Paul, Minnesota

The East Side Neighborhood Development Corporation (ESNDC) was formed in 1979 by concerned neighbors and business people who wanted a nonprofit development company to develop new housing in the area. The organization is led by a Board of Directors of citizens, business and political leaders. The staff is comprised of three full time, two part time people and two part-time auditors. The corporation has an annual budget of $130,000 which it raises from grants, energy audits, and product and real estate sales.

ESNDC participated in the St. Paul HUD innovative energy grant, along with the Lexinton-Hamline Community Council, Snelling-Hamline Community Council, West Side Citizens Organization, and Tool Lending Library. ESNDC was the newest organization of the five. It contracted to serve the Railroad Island Neighborhood as well as the entire East Side. This area has 18,000 households in three of the city's seventeen planning districts.

ESNDC joined the other neighborhood energy projects to provide the RCS energy conservation audits. The arrangement negotiated with Northern States Power Company was a contract of $45.00 per audit, with each community organization responsible for scheduling and marketing its own audits.

Marketing audits was a problem because when a customer requested an audit in response to the utility's marketing efforts, the audit was assigned to the utility's rather than the neighborhood's auditor. After the utility developed a backlog of audits it could not respond to, four hundred audits were referred to community groups. Community marketing efforts were successful, however, when the utility began waiving the customer audit fee for low income customers. ESNDC got three hundred audit requests from people who came to Merrick Community Center for commodities distribution. (A utility representative commented that NSP had felt that the program was a utility mandate. The company later decided that the customer should be able to choose a utility auditor or a community auditor, and now has a checkoff on audit request forms.)

ESNDC was committed to hiring neighborhood residents as auditors, particularly unemployed people. Some of these people lacked skills in test taking; of the six people trained, four eventually passed the state examination.

Some of ESNDC's energy project efforts from the audit program, e.g., group purchasing, organizing block clubs, and workshops through community education, had low response rates from neighborhood residents. There has been much interest in the superinsulation retrofit, however; two hundred people attended an open house at the superinsulated home.

The superinsulation retrofit, an exterior retrofit using the Larson Truss System, was piloted on a one-story, 1950's single family home. The foundation was insulated by digging a trench, installing a vapor barrier, attaching blueboard, and building a base ledger plate for the trusses with blueboard under it. (The base ledger plate formed an overhang when the wall retrofit was completed.) The foundation was formed out around the basement windows. For sidewalls, a vapor barrier was draped along the side and stapled in place. A nailing plate was attached at four feet with polystyrene below it. The trusses were then put up with plywood gussets for strength. The R-value for the attic was R-60, and nine inch batts Parsec was used for air barriers on walls. Windows were rotting, so all new triple glazed windows were installed. No detectable leaks were found around windows or framing upon completion. Final R-value for sidewalls was R-36; for windows, R-3. Attic treatment included installation of a vapor barrier, caulking and sealing. An air to air heat exchanger was also installed.

This pilot retrofit has an estimated 11-12 year payback, and anticipated gas heating cost has been reduced from $850 to an estimated $150. As of November 1, the homeowner had not had to turn on the furnace to maintain a 72 degree interior temperature. The pilot cost $9,000 from project funds and $15,000 from the homeowner (mainly for new siding). Most labor was done by volunteers.

This home was selected by mailing a notice to all homes that had received an energy audit form ESNDC. Of the twenty homeowners who responded, this one was selected because the house was easiest to retrofit. The next three homes to be superinsulated will be selected by the same process; however, the funding will be different. The project will provide a $2,000 grant, and the homeowner will secure a loan for the remaining cost (banks were unwilling to loan money for a pilot.)

The St. Paul city-wide energy survey in January/February, 1980 revealed that 60 percent of the respondents stated that they wished to participate in an energy conservation program. (Later experience showed that far fewer were actually interested.) Based on this response, the 17 district planning councils in St. Paul were asked to submit proposals for neighborhood-based energy conservation programs. Four or five proposals were received and were later combined into one and submitted for HUD financing, which was 1 1/2 years in coming. This delay was very frustrating to the community groups interested.

A city-wide Tool Lending Library and four neighborhood projects were finally funded. The projects were in Lexington-Hamline, Snelling-Hamline, a neighborhood on the East Side, and the West Side. (See Session 15 for the West Side Story and Tool Lending Library City Wide Project.) Ms. Close has been involved with the Snelling-Hamline experience. The Community Council was given $20,000 a year for two years beginning January 1982. One concern was the size of the area (only 700 homes) which was very small and another was the relative youth and inexperience of the Snelling-Hamline Community Council. The Council set up a small committee, originally with 15, later with 7 members, to take charge of the project. As the council itself had a budget of only $5,000, the Energy Project with its greater funds became the most important thing going on and this tended to cause friction between the council members and the committee. The Committee set a number of goals for the first year (numbers in parentheses indicate actual accomplishments):

1) Conduct 6 audits (14 done)
2) Group contracting and purchasing ($13,000 sales)
3) Expand community gardens (tripled area)
4) Conduct two demonstrations (accomplished; a third is planned)`
5) Start a newsletter (22 issues thus far)
6) Raise additional funds for the project.

Some of the problems which the program faced were:

1) Energy auditors were actually paid more than experienced community organizers who in St. Paul are paid about $15,000 a year. Energy auditors get $8 per hour.

2) The amount of organizing skill needed to promote the program was underestimated. The project depended upon the newsletter and word-of-mouth pulicity which were inadequate.

3) There were seasonal problems: doorknocking in the summer when the temperature was 90o did not elicit much repsonse.

4) Friction arose with Northern States Power, who hired energy auditors directly. The Project had assumed that NSP would give priority to using community energy auditors. However NSP saw the energy audit as a source of good P.R. for itself and therefore, likes to use its own auditors. Also, NSP reimburses the Project at the rate of $49 per audit which covers only the salary and insurance of the auditor, leaving nothing for Project overheads. Actual cost to the Project per audit is about $50 to $90 (audits cost homeowners $10 on utility bills). Furthermore, NSP auditors

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work during the daytime and someone must stay at home to receive them whereas community auditors worked on weekends and evenings.

5) The original Project area was much too small so the project received permission to move into adjacent areas adding 9,000 housing units to the initial 700.

6) Two-hundred-fifty audits have been done.

The project people feel that the Minneapolis Energy workshops are far more effective (see sessions 16 and 24). These involved an initial workshop meeting on a Saturday for homeowners in several square blocks, followed by energy audits for those who wanted them. After these audits, there would be a second workshop and demonstration. Participants would be provided with about $30 of materials. The conservation materials store, which is open part-time in the basement of a local church, has had modest success selling some $13,000 of material at lower than normal prices. However, in the fall, hardware stores tend to advertize products as loss leaders which may bring their prices under what the Project can offer. The store has taken out a loan of $4,000 to get an inventory going but is faced with a relatively short active season starting in September and also has had little advertizing and publicity.

14. Center for Neighborhood Technology
Scott Bernstein
Chicago, Illinois

The Center is the child of a coalition of neighborhood groups in Chicago and covers the entire City as its area of interest. It is characterized as a policy research and technical assistance center and employs twenty full-time professional people as well as many part-time people and volunteers. It has been in existence for over five years. The organization and programs are more completely described in its annual report Bringing New Life to Our Neighborhoods (See also the February issue of Neighborhood Works, the Center's monthly publication.)

Bernstein pointed out that Chicago's housing stock consists of 22 percent single family houses, 30 percent in 2 to 4 unit buildings and 48 in larger (5 or more units) buildings. By and large, the people in the worst situation, the poor, live in the larger buildings. Twenty-one percent are Hispanic, 40 percent Black. Chicago's energy costs were an estimated $3.2 billion in 1980, $3.7 billion in 1981, $4.1 billion in 1982, and are continuing to increase at the rate of 19 percent per annum.

The Center has concentrated on two major programs: (1) the energy problems of non-profit buildings, and (2) multi-family housing. It is estimated that energy costs represented 11.6 percent of rents in 1961, 19 percent in 1971, 23 percent in 1975 and 33 percent in 1983. Faced with this situation, the landlord has few options: he can raise rents, sell out, or let his property deteriorate. Or, he can start conservation measures.

There was literally no energy market in Chicago two years ago. The Center has been engaged in a campaign of bringing contractors, landlords and financial institutions together to talk to each other because all three are

necessary for an effective program of energy conservation. They are working on a mortgage pool for energy conservation financing at 1 percent over the prime rate to develop a supply of money for this purpose.

The non-profits are finding that an increasing amount of their budget is going for energy costs and the numbers are considerable. There are, for example, 120 community centers in Chicago alone. The Center is undertaking energy conservation demonstrations at these centers one by one which are showing up to 50 percent reductions in energy consumption.

One of the problems was to make energy a city-wide issue. There was some success in doing this in the last mayoral campaign and Mayor Washington is beginning to move up on some of his commitments. A $15 million energy loan pool is about to be launched. The Center has also helped 6 neighborhood centers obtain grants from the Amoco Foundation which start with a $2,000 grant to develop a concept, then follow with a $15,000 grant to develop a plan and ultimately a $50,000 grant as start up funds for carrying out the plan. The plan is to pull them together in a network of Community Energy companies.

15. **WSCO Energy Company (West Side Citizens' Organization)**
Tom Gilshannon
St. Paul, Minnesota

WSCO has been running a neighborhood conservation program on St. Paul's West Side, an area of about 15,000 people and 3,893 housing units of which about 3,100 are single family houses. WSCO was funded under the same program as the Snelling-Hamline area on which Julie Close reported (See session 13).

Gilshannon spoke of the efforts of WSCO to communicate with its constituency which included the largest concentrated Hispanic-American population in the state. The goals of the two year program are to conduct 300 energy audits, 120 workshops, and the development of energy conservation plans by homeowners for their own houses. WSCO divided its area into eight sub-areas and established centers in each of these areas in order to keep the program geographically close to the people. It developed a cartoon series which ran in the community newspaper depicting energy-wasting villains of various sorts. Through the eight centers, a network of energy managers was created, who in turn recruited and supervised a network of energy volunteers. They attempted to take homeowners through a five step program:

1) Energy audit
2) Energy workshop
3) Developing a plan for their houses
4) Execution of the first phases of the program

The major problem was ennui. Gilshannon pointed out that the energy crisis is a new kind of problem for Americans. Up to fairly recently, they have by and large had what they needed with plenty of everything available. Now, they are faced with shortages and find it hard to make this adjustment. WSCO had set up a series of fairly elaborate workshops with much advertising and yet had virtually no audiences. Much more successful was an energy fair held at a local Catholic church. This was advertised and communicated by staff and volunteers who had had long experience in the Hispanic community.

The fair was conducted at the same time as other activities in the church which were a big attraction to the local Hispanic population. A simple lively looking mimeographed flyer in Spanish was used. Three Hispanic network managers were recruited who aided in the fair and continue to head the program in the Hispanic neighborhoods. WSCO decided to provide the network managers with a personal home computer as a motivation tool which can be used with fairly simple energy-software. This has proven to be popular with the people as well as the managers and has introduced both groups to energy issues and to computers.

16. **Minneapolis Energy Conservation Program**
Iric Nathanson
Minneapolis Community Development Agency

Energy conservation efforts in Minneapolis are based on the specific proposals of a task-force and the goal of reducing consumption in the residential sector by 30 percent by 1990. Two programs, the Neighborhood Workshop Program and the Minneapolis Energy Bank, seem to be on track in achieving this goal through measures like lifestyle adaption to low energy use, the "House Doctor" attic bypass, weatherization and insulation, increasing furnace efficiency, etc.

The Neighborhood Workshop Program (see Session 24) provides training, materials (through Minnegasco), support for implementation, and RCS audits in reaching the goal of conservation. So far, 18,000 households have been served and the goal is to cover every house by 1985. The workshops serve to mobilize and organize neighborhood groups. The Minneapolis program relies more on its centralized city staff and finds it an effective tool in organizing neighborhoods. The response and turnout has been high in high-income professional neighborhoods even when workshops were held in seasons when energy was not a major concern. For the low income neighborhoods, the workshops were more successful when held during season of high energy consciousness (Fall and Winter).

The Minneapolis Energy Bank provides loans to homeowners for energy conservation. Initial difficulties in raising capital from commercial banks were overcome when the utilities agreed to service these 10 percent ten-year term loans. The program had a good response initially but seems to be tapering off causing some concern.

The program was advertised through tabloid insertions in newspapers, an effective, but expensive method. But even a better method seems to be direct mail advertising through inserts in the bills of the gas and water utilities.

The convenient loan application procedure is another attractive feature of the program: the audit is followed by mailing in the application and most applicants with good utility bill paying records are granted loans. However, most of the loans so far have been granted to upper middle class households in the 50-80 percentile income groups.

The efforts to involve lower income households -- poor people in leaky houses who have difficulties paying their bills or retrofitting -- have to overcome the problem that they mostly live in multi-unit rental housing where owner and tenant incentives diverge. Two approaches have been adopted:

1) Codes under which owners must make some standard level of retrofitting (e.g. insulate up to R19, install storm doors/windows, caulk, etc).

2) Financing schemes aimed at rental housing under the Energy Bank for 1 to 4 unit homes and Apartment Loan Funds for 5+ unit homes through private banks usually subsidized by the city from private foundation grants.

There are efforts underway to evaluate the effectiveness of the program and by the summer of 1984 enough data should be available to use software developed at Princeton for the purpose. It will even be possible to isolate the benefits of specific types of retrofits.

17. **Red Wing Comprehensive Energy Program**
Dean Masset
Council Administrator, Red Wing, Minnesota

Red Wing is located about 50 miles southeast of Minneapolis-St. Paul and has a population of about 14,000. This presentation is concerned more with the economics and energy impacts of the Solid Waste Boiler Facility rather than the Comprehensive Energy Program. Around 1977, Red Wing started to look for alternatives other than land-fills to dispose of its solid waste. A possibility that emerged was to use waste to produce steam which was being used by several companies in the area. A tanning company was interested in buying the steam and even financed the feasibility study which concluded that the project was marginally feasible.

The city went to the constituency and a referendum supported 15 to 1 to finance the project with a general obligation bond issue, motivated chiefly by:

1) Environmental considerations (no more land-fills)
2) Energy conservation
3) Economic rationale (waste disposal would be costless and revenue-generating)
4) Conservation of farm land
5) New jobs and stable tax base

The facility has been operational for 14 months now and cost $1.3 million for the boiler and another $1.1 million for the buildings. It has twin incinerators with a combined capacity for burning 72 tons of unseparated waste a day 5 days a week and reduces the trash volume by 90 percent. The waste (collected in recycling centers where it is separated) is fed in every 6 minutes.

The facility has been a phenomenal success and has in fact operated above capacity burning over 105 tons/day producing .5 million lbs steam/day at 140 PSI. It operates within Minnesota's air quality standards and the ash

produced is not hazardous. Some of the economic and energy aspects are highlighted:

- Costs $11.24/ton to operate
- Produces $17.05/ton in revenue ($5.81 net)
- Creates 9 full-time jobs ($160,000 salaries)
- Stabilizes energy costs for the tannery which employs 400 workers
- Uses only 1 CFt gas and 22.0 KW to burn 1 ton of waste
- In terms of energy savings, the Red Wing facility saves about 2.3 million gallons of oil annually

The facility has now become a regional facility accepting waste from other areas of Goodhue County which also increases revenue at $10/ton.

When one considers that nationally 4.4 billion tons of waste (of which 230 million tons are municipal waste) accumulates annually, the lessons of the Red Wing facility become clear: If all our municipal refuse was converted into energy, it would provide the equivalent of 1 million barrels of low sulfur oil each day reducing the trade deficit by about $11.2 billion annually.

18. **Tool Lending Library**
John Kaluza
St. Paul, Minnesota

The Tool Lending Library lends tools for home repair and weatherization, provides workshops, energy audits, and low interest (5 percent) loans for alternative energy projects. The program started in 1978 but the initial attempt failed mainly due to:

1) The tools being stolen
2) Inept and corrupt workers
3) Too much was attempted tooquickly
4) It relied on volunteers

The program, scaled down considerably, had a rebirth bolstered with funds from CETA, the city, and a grant. Initially, it had problems in earning public trust being haunted by its past. However, it developed from small projects (e.g. workshops on home repair) in smaller neighborhoods and also undertook some publicity. Helped by commitments from the city, the program has turned around and has now gone city-wide and works from a city public library.

It is a non-profit corporation with a board of directors from the users. There is a $3.00 membership fee for users who also put in a deposit when borrowing tools. The city continues its funding and the energy audits also generate revenue.

Presently, the Tool Lending Library operates on a $30,000 annual budget with about 1,000 members, many of whom are once-only customers. The users are from all segments of society: new home owners moving into older homes, senior citizens, and women. Users attend workshops on the use of tools and borrow them to repair, remodel, retrofit, conserve energy and garden. The library publishes a newsletter, holds annual meetings and works through various

committees. The library does not compete with, but helps the private sector hardware business by generating a demand for materials by freeing up household funds once spent for seldom-used tools.

Some points to note in any attempt to replicate such a project are:

1) Start small, maybe from a block-club
2) Integrate with existing programs (e.g. a food co-op)
3) Use available skills in the community by forming a "skill-bank" (e.g. use older skilled retirees).

19. **Private Foundation Participation in Energy and Jobs**
John D. Taylor
President, Northwest Area Foundation
St. Paul, Minnesota

The past passive grantmaking role of the philanthropic foundations is giving way to more proactive involvement in community based activities and energy matters. As an aftermath of the energy crisis, there was a proliferation of new community-based organizations as well as existing human service bodies which made energy issues their concern. The initial promise of success in terms of energy conservation and the many success stories were bolstered by state and federal legislation and assistance. However, the recent recession, stabilization of energy prices and the administration's disinclination to underwrite energy programs have wiped out many of these organizations and threaten the survival of the rest.

These groups have emphasized job creation and economic development through energy-related business and development activities. The major obstacles to the goals are:

1) Attraction of capital
2) Entrepreneurial skills
3) Selection of viable projects

The cutbacks in public assistance funds have inundated the private foundations with requests for grants which they have no experience in evaluating. However, there are some active, aggressive, socially committed foundations who have made the leap.

- Some New York-based foundations are underwriting New Ventures, a consulting firm established to increase the income of nonprofit organizations.

- Cooperative Assistance Fund, funded by a diverse group of foundations provide Program Related Investments (PRIs in the form of loans, loan guarantees, share purchases, or other equity interests, have been called social investing) to support the economic development of low income communities.

- Emergency Loan Funds, in the Twin Cities and elsewhere, provide grants for emergency housing, food, and shelter as well as for revolving funds to tide over organizations with cash-flow problems.

- The Piton Foundation in Denver, one of the most aggressive, has made PRIs that include a loan fund to improve the economic opportunities of inner-city neighborhoods, start-up funds for a horticulture center and funds to renovate street-level space for commercial rent which in turn supports services for the elderly.

- In the Twin Cities, foundations have been involved in St. Paul's lowertown development, provision of a pool of money for use by nonprofit organizations to retrofit, weatherize and hookup to the district heating system, and the development of an energy plan resulting in a community-wide energy audit.

- The Twin Cities Regenerative Funding Project (the nonprofit sector's version of the business cash-cow) funded by local foundations, first, has idenditifed the kind of help nonprofit agencies need to develop revenues from sale of goods and services to reduce dependence on aid, and second, to develop new tools to help nonprofits to assess their options for regenerative funding and to pursue the promisng ones.

All the above programs have tried to identify sources of earned revenue for the nonprofit agencies.

The foundations are becoming more active and future growth depends on trust in people and projects. Sharing of visions and strategies will increase the level of trust.

III. PUBLIC/PRIVATE POLICIES FOR COMMUNITY BASED ENERGY PROJECTS

20. Public Policy for Community Based Energy Projects and Regulated Utilities (Panel Discussion)

Moderator: LuAnne Nyberg
Minneapolis Urban Coalition
Minneapolis, Minnesota

David Moulton
Energy Conservation Coalition
Washington, D.C.

The Energy Conservation Coalition (ECC), a Washington D.C. advocacy and education organization, developed its advocacy and information programs in response to President Carter's Synfuels program to find better approaches to energy use. We pulled together 16 Washington organizations to protect the gains that were made in those days. (Someday maybe we can reform some of those programs without risking having them eliminated altogether.) There exists a variety of federal programs that may be helpful in applying leverage for state and local programs that are supposed to help low and moderate income families cope with energy needs. We work to defend the Low-income Weatherization Program, Solar Conservation Bank, research and development budget of the energy conservation program in Washington, and other state and local programs including Schools and Hospitals Program, Energy Conservation Program, and Energy Extension Service. The Coalition publishes the Energy Conservation

Bulletin 6 times a year and also some occasional policy papers; for example, a recent paper on how public policy can be applied to energy efficient appliances reviewed not just minimum standards, but rebate programs used by utilities and education policies. The Bulletin has been advocating regulations for energy efficiency ratings for appliances which are being resisted by the Reagan Administration. It has also done an analysis of the employment impact of low-income weatherization programs so community groups will be in a better position to take advantage of the gas overcharge monies from the Exxon judgement that will be coming down to the states. Another analysis was of RCS program reports required by DOE which, with a few exceptions, has been a tremendous failure because of the extremely minimal steps the utilities have taken to comply with the regulations.

Margaret Morgan Hubbard
National Jobs in Energy Coalition
Washington, D.C.

The National Jobs in Energy Coalition is a national program with two local projects--one in Baltimore directed by Dennis Livingston, and one in Philadelphia directed by Kristin Dawkins—to develop positions on energy policies from a local perspective. The Coalition uses this applied research approach to educate decision-makers in Washington. The coalition is involved with promoting the creation of community-based jobs through energy conservation programs and examining what kinds of national legislation are appropriate to promote these efforts on the local level. At the same time we've examined what kinds of national legislation are required. We put together the NEEDS Act, the National Energy Employment Dollar Saving Act. This act analyzes what kind of energy conservation activities create local jobs and encourages federal support of these activities. The Coalition has worked at the state level in Maryland on utility legislation to encourage utilities to serve the needs of poor people beyond the RCS audit requirements. It formulates new state legislation from the work done in Philadelphia and Baltimore. To do this we work with a national coalition called the Energy and Employment Strategy Group. The National Energy Employment Dollar Savings Act is being pushed at the Congressional level while working at the state level on legislation directed at utilities using the experiences in Baltimore and Philadelphia. The coalition has a step-by-step outline of what was done to begin to make the utilities more responsive in Maryland. The question is how to work with utilities, which means compromising all the way, and still end up with a program that is worth fighting for.

Marcia Janssen
Assistant to the Deputy Commissioner of Energy
Minnesota Department of Energy and Economic Development
St. Paul, Minnesota

Speaking from her experience as an energy lobbyist with the Minnesota Public Interest Research Group (MPIRG), Ms. Janssen was prepared to talk about what has been accomplished in Minnesota to require the utilities to begin a Energy Conservation Investment program. Through the Minnesota Public Utilities Commission, four utilities (including NSP and Minnegasco) we required to develop Conservation Investment Plans. Minnegasco's program in Minneapolis through the Self Reliance Center is a direct consequence of the 1980

legislative Energy Conservation Investment mandate to the PUC. Minnesota also has its own small power producers and cogeneration act. Like the federal PURPA Act, Minnesota's act requires utilities to buy back electricity generated by small power producers, e.g. solar, hydro, wind. It also brought coops and municipals under the jurisdiction of the PUC for the purposes of such regulation. Also in Minnesota there is an agreement between the Energy Division of the Department of Energy and Economic Development, MPIRG and NSP, which grew out of a "certificate of need" proceeding which allows NSP to start up a new coal fired generating plant at the end of the decade but also requires NSP to invest $50M in conservation.

DISCUSSION

Janssen: All the legislation in Minnesota mentioned above came out of the community groups working with MPIRG. We were the model state in the old RCS program in mandating third party audits. Such policy cannot be shaped without grassroots involvement. It has not been easy. There are instances when it was the Energy Agency, or the Department of Public Service which initiated a particular step, but most often it was the community groups that jolted state or local governments into action or actually took the lead role. In the earlier session, someone asked "What tricks have you learned?" What I've learned is that you can't do it without the grassroots involvement. And that's really where the policy shaping has to take place. And then you build your campaign involving as many policy shapers as you can. The Minnesota Public Interest Research Group (MPIRG) has worked with input from other community based groups and non-profits to design and pass legislation. But all of this came from the bottom up.

Moulton: DOE will apportion the Oil Overcharger Funds by a formula on a state by state basis. Minnesota will get approximately $24 M from the Exxon overcharge settlement. It will probably come to the governor's office. The key is to set up, ahead of time, a hearing process to determine how the money wil be spent

Q. Why are you so critical of the RCS?

Moulton: No federal agency supervises program and state responsibility is divided between public regulatory agencies and energy agencies. No one is in charge. Grassroots groups were not involved in designing the program. No one really has a stake in making it work except the few community groups that have become involved in it. States have not supplemented it by and large, and federal requirements are very minimal. The situation now is, thanks to the Reagan administration's rollback of the regulations, every utility is basically making up its own program with some little state oversight. Many utilities are doing a minimal job of implementing the audit. Minnesota is a good example that the way to make the RCS program work is to get intermediaries involved between the utilities and their customers intermediaries who are interested in getting the participation rate up and becoming involved in the whole range of financing, contracting and other items which make it possible for the customer to do energy conservation, but from the national perspective, this is very unusual. It is very unlikely that any bill on natural gas pricing will be passed before the election.

Q. Are there any instances, aside from Springfield, VT, where a local jurisdiction has disconnected from its utility and gone on its own?

Hubbard and Moulton: From the consumer standpoint, the coops and the municipals' records have not been all that better than investor owned. Go municipal and you end up with utility professionals running the system to the detriment of the consumers' interests. Environmental Action has a lot of information on the pros and cons of forming municipal utilities.

Q. Have the utilities responded to the RCS study done by the Energy Conservation Coalition?

Moulton: The Edison Electric Institute and the American Gas Association oppose the program because their utilities do; they have agreed that the program does not work very well but they do not take responsibility for it.

Q. How transferable is the Minnesota RCS audit program?

Janssen: Where you have an already existing organization and block-by-block program, it should work. In Minneapolis, energy conservation was grafted onto the crime prevention program with some minimal confusions in the first weeks.

Comment: Minneapolis is a very top-down approach from the city and there will not be much left when the program is done; in St. Paul the approach has been to use energy conservation programs to try and build/strengthen neighborhood organizations that will be around after the RCS program.

Q. Is the community-involvment in the RCS program viable for smaller communities?

Moulton, Janssen, Hubbard: You need a proposed program to get in the door and you need a critical mass of committed local groups — Grange, small co-ops, churches, whoever can be sold on the program so the utility will take you seriously. But it can often depend so much on personalities; in some cases local utilities have responded to conservation programs with a minimal amount of pressure having to be applied.

Moulton: People should be aware that HUD is going to have another round of Solar Bank conservation money in fiscal '84 and you might want to think about how to participate in that process.

21. Partnerships and Ventures between Utilities and Communities (Panel Discussion)

Moderator: Karen Swenson, St. Paul City Council Research Center

The following is an overview of energy conservation programs conducted jointly by utilities and communities in various locations throughout the country.

RSI Audits
John Wilbur
Lutheran Housing Corporation
Cleveland, Ohio

The Lutheran Housing Corporation negotiated with East Ohio Gas Company to allow neighborhood organizations to provide RCS audits. Lutheran Housing is now responsible for training RCS auditors, monitoring the technical quality of

the audit and administering the program and bookkeeping. Securing this function has played a significant role in weatherization efforts because the RCS audit has been used as a basis for specification writing for all weatherization programs administered by neighborhood groups. The RCS audit has been combined with other funding programs such as a low-income loan program sponsored by the City of Cleveland and the DOE grant program to contribute even further benefits. Lutheran Housing is now looking further into public utility regulations to get utilities to form similar partnerships with neighborhood groups statewide.

Energy Conservation Workshops
John Sweeny
Minnegasco
Minneapolis, Minnesota

Minnegasco in coordination with the City of Minneapolis Energy Office has developed a two prong energy conservation program consisting of neighborhood conservation workshops and an energy bank.

Minnegasco rate payers fund the neighborhood workshops through their utility payments. Minnegasco and city staff both operate the workshops. The city staff coordinate with neighborhood leaders to get volunteers to knock on every door in a given neighborhood to solicit participation in the workshops. Workshop attendance has been high with an average of 40 percent (as compared to RCS audits of 8 percent).

The cost of each participant in the workshop is in the area of $75 - $80 in addition to free materials. The workshop teaches people how to weatherize their homes. After the workshop, the participants are expected to put in a full eight hours of work installing the materials given to them.

The energy bank was run in three phases. Information on the energy bank is available from Minnegasco.

Miscellaneous Programs
Dina Hunter
Southern California Edison
Rosemead, California

Southern California Edison provides electricity to 3 million customers in a 50,000 square mile area of central and southern California. Southern California Edison sponsors a residential energy conservation advisory committee which consists of 15 individuals from customer groups, lower income groups, contractors, businesses, media, education, and ethnic groups. The committee is responsible for helping to better market our programs to various customer groups and operation of SCEs conservation programs. SCE, in a cooperative venture with the state of California Office of Economic Opportunity, sent a weatherization survey to 1.2 million AFDC and SSI recipients. SCE sorted the responses and sent them to the appropriate utilities to have their homes weatherized. This is a free weatherization program which is offered by most utilities in California. SCE runs a cooling financing program offering energy conservation products rebates. We also have 8 percent loans. SCE was surprised to find that 95 percent of the participants in this program chose rebates over loans. The rebate program is cheaper than servicing a loan for any

period of time. So we are delighted that people are taking advantage of the rebate program. We'd like to encourage more rebates and phase out the loan program. The program is marketed through contractors and community groups. Funding for the rebate program is from rate payers, although some of the other programs are funded by donations from stockholders. In order to raise rates to fund new programs the program must pass a cost-effectiveness test.

SCE has contracted with the California Conservation Corps to install insulation and evaporative coolers. The coolers are installed at $550 a unit. The payback to the homeowner is $2,000 over 5 years. SCE installs passive solar energy systems for no cost to the low income resident through community groups.

SCE also runs an RCS program. SCE has trained community groups to conduct audits and contracts with these groups to supply manpower for the audit program. SCE is phasing out its own audit program.

Target Markets Conservation Programs
Archie Murray
Pacific Gas and Electric
San Francisco, California

Pacific Gas and Electric is a dual service utility serving nine million people based in San Francisco. Beginning in 1976 conservation became a very vital part of our business. In 1976 we spent about $9 million for conservation and load management programs. In 1983 we will spend in excess of $200 million and in 1984 we will exceed that amount also. Programs are targeted to serve low-income, elderly and non-English speaking renters and landlords. The company has 30 field representatives which work directly with community organizations to promote the general awareness of conservation issues. In relation to this, PGE funds community based organizations to sponsor seminars, hold energy fairs and distribute conservation literature.

PGE contracts with the California/Nevada Community Action Agency to manage a direct weatherization program. Qualified low-income people can get their home weatherized or a solar hot water system installed free of charge. PGE has weatherized 14,400 homes at an average cost of $665 and has installed 5,000 solar units at a cost of $3.2 million.

PGE is currently working out a program to contract with community organizations to carry out RCS audits to be conducted in 1984. We plan to do about 100,000 audits next year of which approximately 10 percent will be done by community groups and others. A unique program developed by PGE is the Community Electric Management Program, by which the company contracts with local governments of communities to reduce peak energy use in the summer between 12:00 noon and 6:00 p.m. With this program we provide an incentive of up to $100,000. Cities have used the money to fund energy projects such as efficient street lighting, a solar clock, and a methane power plant. PGE also works with the California League of Cities on the Energy Management and Resources Program to encourage more communities to work with utility companies and take advantage of the available audit and funding programs.

The Private Non-profit Corporation
Tom Griffin
St. Paul Energy Resource Center
St. Paul, Minnesota

The Energy Resource Center is an independent, non-profit organization which was formed as a joint venture between the City of St. Paul and Northern States Power (electric) to loan $3.2 million to middle class people for energy conservation projects. The purpose of the center is to provide information and money to people and to market the idea of conservation so that institutions, neighborhoods and individuals will take on conservation projects. The center operates as an administrative bank with funding from NSP to service loans. The capital for the loan program was publicly financed by tax-exempt bonds issued by the city. The advantage of this type of independent organization is that it can create innovative programs. I want to stress the point: what is the future of these kinds of intermediary institutions such as these kinds of corporations? David Morris last night touched on some of the institutional changes we're beginning to observe. Those of you who are going back to places in the United States where there is a governmental unit and a public utility, I encourage you to see how you might be able to merge their interests together. I'm not going to say that it is easy to do this. Although the center is governed by a board of directors and administrative committee, its structure is far less cumbersome and more flexible than traditional organizations and thus new programs are initiated more easily. Is this kind of intermediary institution an advantage to you do you think? You can get money to capitalize your efforts through tax exempt bonds if you've got an innovative mayor and planning department. An advantage of the program is that new jobs are being created. A disadvantage is that the Energy Bank does not make as much money as a bank so that funds are limited. The goal of the center is to get middle income people to eliminate 20 percent of their energy costs. Finally, we've spent $3.2 million for middle class programs How many jobs do you think are created by investing this amount of money in the middle class?

DISCUSSION

Hunter: SCE spends 15 percent of our conservation monies on low and moderate income residences. This weatherization of low and moderate income residences is done free. The funds for this utility program come from the ratepayers. All the weatherization work is contracted out to community groups and others. We have another program where stockholder money is used to help offset utility costs. This is separate from the federal program which is never on line soon enough. We must go through very rigid tests of cost effectiveness which is debated annually when we go in for a rate adjustment because of the costs of these programs.

Murray: There are four cost effectiveness tests which are used in the state of California: participant, non-participant, utility and societal.

Hunter: Installation of an evaporative cooler will cost less than weatherization.

Wilbur: We get $55 for an RCS audit. In Ohio we are the least expensive audit program in the state. In this discussion about grants and rebates v. loans, a program that I'm working with uses a three percent loan in neighborhoods where sixty percent of the people are on public assistance. They are generating more loans than grants. We think its because generally we've got conservative neighborhood groups out there who are trying to reserve the grant money for those who are poorest in a community. If you want to start a program with your utility, you can tell them that a loan program may be appropriate in a neighborhood considered partially bankable. Many of the people who we see are not bankable. We get the bank to accept these people based on the energy savings resulting from the project.

Hunter: A California Utilities Commissioner suggested that our utility should kick in to replace the federal energy assistance program reduction. The company agreed to contribute before it was generally known that the federal program was increased despite rumors. In short, politics. I personally am not in favor of a winter program. If anything, I'd like to see our utility enter into a summer energy assistance program. Particularly because we overlap a gas utility program which has a winter assistance program. We should operate our assistance program during our summer peak.

Murray: PGE kicks in about $1 million dollars to the energy assistance program from shareholders and its employees.

Hunter: $275,000 comes from customers and $500,000 from shareholders for the SCE Energy Assistance program. Altogether SCE gives $900,000 to United Way agencies for the energy assistance program. In 1981 Senior Management of Edison shocked the industry by their announcement that they were going to use all their resources to develop renewable and alternative areas. We are not going to build any more nuclear plants, with 3 nuclear plants in place since 1964. We've built Solar I, a 10MW plant, 3 MW wind energy and 100 MW planned for wind, geothermal, cogeneration. In total we have 9 kinds of energy generation including fossil fuels.

Murray: With the current conservation effort we figure we will save approximately two and one-half to three major power generation facilities. We do not anticipate any peaking problems in the near future with the two new plants coming on line.

22. **New Approaches to Marketing Energy Audits for Small Businesses, Including a Role for Bankers and Engineers.**
Jock Robertson and Mark Leutgeb
Energy Account Managers, St. Paul, Minnesota
A. William Sands, Jr.,
President, Western State Bank
St. Paul, Minnesota

Robertson: Energy Accounts Managers (EAM) was set up to provide energy audits for small businesses. It grew out of a St. Paul city-sponsored joint demonstration project which acted on the following conclusions about energy savings by small businesses:

- A development support organization was needed

- Small business owners may need several management and administrative support services

- Small businesses need simplified energy audits, in an understandable format, with fiscal implications

- By organizing groups of buildings, the transaction cost could be minimized and sponsor organization could act as general contractor or purchasing agent

- There is a potential expanded bank portfolio for the credit needs of an energy-informed customer

The participants in the joint project, the City's Business Revitalization Division, Western State Bank, the Macalester Resource Management Center, the Red Wing Energy Education Center and the consulting firm of Robertson and Associates, with the St. Paul Mayors Office acting as the catalyst, cooperated informally and effectively. The bank also played a key role of linking the small businesses.

(Here the slide show that EAM presents to its customers was shown.)

The market for energy audits for small businesses in St. Paul is quite large - about 8,000. Traditionally, energy audits were available only for larger businesses (few in number) and the many small businesses could not afford the engineering firms undertaking these comprehensive audits. The demonstration project showed the path to meeting their needs.

Sands: Western State Bank serves an older community which has poor energy efficiency. The Bank has grown rapidly in recent years and serves three major markets: (a) senior citizens; (b) developers; and most importantly, (c) small businesses (in the range of $0.5 M to $3 M). The city project fitted-in well with the Bank's goals. The Bank was interested because 1) it already had some experience with earlier city-funded audits; 2) the bank itself had recently remodeled its premises and found many ways to save energy; 3) the management had a high level of awareness of energy conservation; and 4) it saw an important potential market for new loands and operations. As a participant in city projects, the Bank was able to identify small businesses who could benefit from energy audits and it turned out that many of them wanted the audits. EAM makes the presentation and the concept usually sells itself, but the banks' sponsoring role is also a major aid to success.

Leutgeb: The correct mix of marketing and technical skills is an important element. The recommendation of the audits must be relevant, direct, to the point and easy to implement by the small businesses. The technicians are perhaps better suited to this purpose with the engineers "looking over their shoulders."

The energy audits also have an educational aspect for the small businesses who are usually too concerned with other things. However, they easily understand and adopt energy conservation methods in terms of paybacks to specific measures. It also helps to separate the recommendations into those which need investment and those which are purely of the maintenance type.

(A slide presentation then showed examples of some of the work done by EAM with small businesses in St. Paul with first year savings ranging from $322 to $7,000)

23. **Multiple Family Building Audits**
Chris Copp
Minneapolis Energy Coordinator's Office
Minneapolis, Minnesota

Multiple Family Building (MFB) audits in Minneapolis are relative new compared to the 2 1/2 years of single family audits. However, for the past two years, data have been gathered which reveals some pertinent issues. The major one is that in MFB units, it is usually the case that the renters use energy while the landlord buys it, providing diverging incentives for adopting energy conservation. Studies have shown that in single family residential buildings adopting energy conservation measures, 2/3 of the savings are derived from lifestyle changes. This source of benefit is difficult to capture in a MFB. In Minneapolis in most housing units with 4 or fewer families, the renters pay the energy bill while in 5 plus units, the owner pays. Other issues are the size of the building (e.g. larger buildings have maintenance people who may oversee conservation) and the condition of the building (single family units may be more concerned with maintaining property values).

The MFB audit program has been in operation for about a year now. About 100 buildings of the 5 plus category have been audited and the experience has allowed the drawing up of a profile of landlords. (The Office of Technology Assessment publishes a book titled Energy Conservation in Buildings in Cities which provides national information).

1) Small or Individual Owner: They usually own only a few units and stay close to the units. They want to see positive cash flows and energy conservation is important to them. However, the younger owners usually sell out in about 2 - 5 years taking advantage of depreciation calculations. However, the older owners are more permanent and willing to undertake measures with longer pay back periods.

2) Limited Partnerships: They are usually young professionals using properties as tax shelters and fronted by real estate or management agents. Characterized by quick turnovers, they are not too concerned with positive cash-flows.

3) Corporate/Institutional Owners: These own many units as a professional real estate business enterprise and are concerned with profits. However, they want professionalism in the energy conservation contractor.

On the other hand, the profile of tenants (excluding condos and coops) show them as being unable to afford the ownership of their property and thus in an adversarial relationship with the owners. They are also highly transient.

Within the MFB units, the 1-4 unit buildings are treated differently than the 5+ unit buildings. The 1-4 units are approached in the same way as single family dwellings (because of structural similarities and bill-paying renters) under the program. However, very few (1 in 10 in Minneapolis) of the tenants in 5+ buildings pay their own energy bills, and these structures are treated differently.

For the renters in Minneapolis who pay their energy bills, there exists the Rental Energy Code enacted to remedy the situation. The code targets paying tenants who have no control over structures owned by landlords and lack incentives to conserve energy. Briefly the code specifies retrofit measures like storm doors/windows, weatherizing, shutoff on fireplace damper, attic insulation (to R19, to be raised to R38 next year), insulation of "accessible" walls, rim joists (to R11), etc. It is a good idea. But in its present, somewhat ambiguous form, it is difficult to enforce and needs rewording. It also may lead to increased rents but in the long run should provide benefits.

A slide show then demonstrated the kind of work being undertaken by the MFB audit program which consists of:

1) An initial energy analysis
2) An analysis of energy bills
3) A second consultation service in the building with the owners where specific measures are suggested on the audit form.

In the future, the program intends to hold educational seminars for maintenance people in the larger buildings followed by tenant workshops.

24. **Residential Energy Workshop Demonstration**
Lola Schoenrich
Self Reliance Center
Minneapolis, Minnesota

(The session was run "as if" it were an actual workshop with everyone wearing a red or blue tag.) Three groups have been involved in running these workshops in Minneapolis:

1) City of Minneapolis; Energy Co-ordinator's Office -- conducts the workshops

2) Self-Reliance Center -- technical assistance and energy audits

3) Minnegasco -- funding

The neighborhood-based program is structured as follows:

1) People come to a midweek evening meeting: slide show, overview.

2) They come back on Saturday morning for a short workshop; they learn about a simple energy survey for their homes and learn low cost

methods that they will implement that day.

3) They go home and implement the low cost measures; a city staff person comes around during the afternoon to see how they are doing.

4) If people desire, they sign up later for an energy audit.

5) City has now started Operation Insulation (cuts out the bidding process: city has screened low cost contractors, and arranged low interest loans administered by Minnegasco).

The program began as a pilot program in the Fall of 1980. A HUD innovative energy grant enabled the city to fund the program and add three neighborhoods in early 1981. The program has covered 2/3 or 4/5 of the city with 17,000 households served and an estimated 6-8 percent has been saved on fuel bills.

The Self Reliance Center founded in 1976 originally undertook weatherization grant programs and energy audits in a specific area. They have expanded their service area to cover the whole city since no one else was doing so. SRC became linked to the city when they obtained the HUD grant and helped do the audits. Eventually they helped do walk-through quick audits.

Ed Grude from the city energy coordination office then ran a sample workshop.

A. How to get people there

Look for at least 1 volunteer from each block; 50 percent of the block has to participate for the block to be eligible to run the program. The organization is as follows:

Staff (3 project co-ordinators)

Institutional leaders (Aldermen, newspapers, etc. help find volunteers)

Network volunteers (not all taken; must be willing to put in time)

Contacts (i.e. block volunteers)

Block invitees must be 50 percent (there is some flexibility here)

Other volunteers help distribute materials, help people get there, help remind people about it and bring treats.

B. What to teach people and why

They look for the simplest, most implementable things that can be done in a day. Four major components: (try to do all of them)

1) Appliance efficiency

   a) Show energy guide labels on appliances when buying a new one
   b) Maintenance

2) Energy use habits

   a) Turn down water heater
   b) Turn down thermostat at night
   c) Open/close drapes during course of day

3) Low cost weatherization -- house doctor approach

4) Major weatherization -- tied to Operation Insulation (3 post-workshop meetings)

   a) Audit--find problem areas in house, fill in priority sheet

   b) Consultation--sign up for work, contractors guaranteed, low interest loans

   c) Post-installation--inspection, free infrared scan

C. Program schedule

Evening meetings concentrate on appliance efficiency and energy use habits and Saturday meetings concentrate on low cost weatherization. Major weatherization is a later option.

1) Saturday meeting agenda:

   a) Registration 8:45
   b) Introductions
   c) Presentations
   d) Model demonstrations
   e) Sign up for audit (if you want it; happens a week later as part of Operation Insulation)
   f) People go home to do their low cost weatherization survey (survey is keyed to materials required to do the work)
   g) People return to pick up these materials
   h) Weatherization takes place
   i) Staff comes around to check to see if people need help

2) The Saturday workshop takes the "house doctor approach" based on a Princeton study which says in principle that a house is full of

holes and the heat leaks out. At the workshop, a slide show tells people where these heat leaks might be located, how to isolate the heat box (a house diagram shows which parts of a house need to be heated and where you want insulation) and how the leaks are stopped by insulation and sealing.

3) Participants are told the 3 rules of weatherization:

a) Seal the boundary (of the heat box) from the interior
b) Seal and insulate at the same boundary of the heated box
c) Seal before you insulate

A demonstration then followed showing how to do basic weatherstripping, caulking, insulation of living area, attic, and basement.

25. **Welcome**
Joan Campbell
Vice Chairman
Metropolitan Council of the Twin Cities

Ms. Campbell welcomed all conference attendees to the Twin Cities and proceeded to explain what the Met Council is:

- An area-wide planning and coordinating agency in the seven county metro area.

- A unique agency in that it was mandated by the legislature--members appointed by the governor and the chairman appointed at large.

- Main function is planning for growth and development in the area including transportation, parks/open space, housing, sewers, etc.

- A policy-making body that gives direction and guidance to the local governments on how development should go.

- Has a lot of power to plan and guide growth but not a lot of implemental power itself as much of the power given directly to the various council commissions, i.e. the Waste Control Commission, Metro Transit Commission, Housing Authority, etc.

The Metro Council is not involved directly with energy, but is tangentially involved through other programs such as transportation, waste siting, housing etc.

Some of the economic policies of the Met Council include:

- Area-wide policies such as sewage, etc.

- Coordinating economic development--providing area with economic and demographic data (this is what the council does best)--guides development, does not tell local governments necessarily what to do.

- Business financing policies

- Economic opportunity policy -- providing jobs and housing for low and moderate income people through development.

IV. COMMUNITY ECONOMIC DEVELOPMENT MODELS AND STRATEGIES

26. Elements of Successful Economic Development Strategies

Stewart Perry
Institute for New Enterprise Development
Cambridge, Massachussets

Dr. Perry addressed several questions: What is community based economic development? How are the strategies developed? What is the role of the institution in the economic development process? The aim was to present precise and usable perspectives for successful local economic development. Economic development provides a new hope for a deteriorated city neighborhood or a rural area that has been bypassed by the American economic mainstream.

There is a need to establish a consensus of what community based economic development is. We cannot use conventional abstract definitions of economic development such as:

1) An increase in gross product of the area or
2) An increase in average family income--neither comes close to describing operationally or practically what is really involved.

There are four popular (but misguided) government economic development strategies which are around:

1) The "I Love New York" approach: only good for boosterism; empty ideas; unfocused enthusiasm.

2) The "Beggar Your Neighbor" approach: more focused than 1); goal is to get industry to locate in your city and compete with other cities. But location incentives simply do not work.

3) The "Big Bang" approach: tries to create and locate some extra-large facility; destroys the community in that social pathologies increase.

4) The "White House" approach: calls for tax reduction that will encourage capital formation, monetary controls, and foreign adventure to secure our vital interests.

There is also a new emerging strategy, also misguided, which may be titled "Place your bets on high technology" approach.

The community-based approach is not glamorous but it can work and can be the springboard for successful energy development.

The community-based approach is characterized by the following:

1) It is locally designed and locally controlled

2) Its objective is the comprehensive increase in the number, strength and variety of productive economic institutions

3) It must be appropriate to the setting

Job creation can be high on the list of goals but it should not be the only goal and reason for economic development. In fact, the jobs that are created might cost more than they pay because taxes gained may not pay for the increase in public services needed. Also, specialized job centers are very vulnerable to economic fluctuations.

There are all kinds of tradeoffs and calculations that have to be done about the costs and benefits of any strategic move, and decisions must be made locally by the people affected by the strategy. Decisions should not be made by City Hall, the State Legislature, Washington D.C., or the multinational corporations. The former Cedar Riverside Project in Minneapolis is an example of the lack of local decision making.

The emphasis must be on building productive institutions, i.e. building organizations that can generate more than they cost. The emphasis in the first instance should not be on jobs or housing or schools but on building the tool that will create the jobs, produce the housing, the schools etc. This is the critical strategic "action definition" of the central problem and all else follows from it. Building and strengthening a whole panoply of many different kinds of institutions is a staggering task but it is the essence of community-based economic development.

There are several elements of a successful economic development strategy:

1) The locality and leadership should be able to conceptualize the problem they face as being economic and systematic. The need for community development does not arise from one simple cause nor can it be boiled down to a single specific issue of jobs, housing, or political influence. There has to be a clear recognition in the neighborhood that it is in grave trouble on a more general basis, that it needs a comprehensive program/revitalization on a number of different dimensions and levels.

2) Better success is likely if the organization has already had success in another smaller project and the community has learned to work together.

3) The leadership must be committed to putting the community ahead of themselves for a long period of time.

4) There must be a demonstrated capacity of the organization to involve and mobilize people within and outside the community in order to gain support.

The above four elements work together to develop the central institutional tool that is used to build other institutions. The institution created for economic development is actually a critical planning institution, i.e. a CDC. Its task is creating, strengthening and verigating the other productive institutions such as the businesses, the financial agencies, the infrastructure services. Each new or expanded institution should be linked programatically with the other institutions to take advantage of spinoffs and cooperation.

The operational elements of success are:

1) Articulate planning: this is often overlooked. A successful plan will not just happen; it must be planned; establish priorities and see that they are followed, or adapt changes if need be.

2) Attention to accounting: watch out for bankruptcy; need experienced people to handle financial matters; seems elementary but many groups miss the mark.

3) Awareness by board and staff of many different kinds of capital available: lots of available money for almost any financially resonable project; the trick is to identify the appropriate sources and how best to use it to leverage other sources of funds; other than just HUD, UDAGs, etc. try tapping into the tax system and into the pockets of the wealthy 50 percent tax-bracket people (an amazing source of capital). But legislation has been proposed to cancel out this innovative source through the Dole-Pickle Bill. All CDC's should make sure that the legislation "does not turn into a new conservative handcuff for low income community development groups."

4) The use of assets of the neighborhood: utilizing available resources and abilities, such as unproductive/unused land or buildings.

The key lies in revitalizing by mobilizing the people. Problems of distressed areas will not be solved by anyone else but by the citizens themselves. Thus, enlist the citizens. Start with building blocks from the bottom up with people committed to their community. Fundamentally, this constitutes successful economic development.

REACTOR PANEL

Milt Nichols
Special Assistant to the Chair
Metropolitan Council of the Twin Cites

Approaches to economic development in the Twin Cities area include the Control Data Business/Technology centers which help small businesses to get going through low capital investment. The centers "have been very successful." The City of St. Paul and the state have IRB and SB503 financing programs and we have IRB financing also. I am in complete agreement with our speaker that small businesses are really the key to any successful community project. New jobs are best created through small businesses with capital secured through public (tax increment financing) and private means.

Mara O'Neil
Minneapolis American Indian Center
Minneapolis, Minnesota

Ms. O'Neil emphasized the importance of planning and noted that too often planning is done in crisis times. Economic development is no panacea for neighborhood problems which are generally long term and thus takes long term solutions. It is also important to nurture current businesses already in place and not just create new ones. Another element is to build success upon success so that the community stays interested over the long time that is needed to get things in place. The planners need to assess the resources—so that the goals are in tune. Finally, the community should be kept informed at all times.

Valerie Pope Ludlam, Executive Director
West Side Community Development Corporation
San Bernardino, California

I am the executive director of the West Side Community Development Corporation. We are not really a community development corporation; we are not a federal Title VII CSA. Our Welfare Rights Organization of 300 women members were welfare recipients. Our issues were housing, training and employment that paid a living wage. We organized the community development corporation because we wanted to develop our community. With Reagan, California's governor and Nixon in the White House, we realized that it might be easier to gain our goals if we had a more acceptable name. We've been organized since 1972. It is extremely important to keep up with the accounting. There are a lot of reasons why organizations don't do it. Contracts and grants do not usually provide funds for accounting and the community organization must provide its own support and be innovative. Most grants may only allow an overhead charge of 28 percent which may not come anywhere near to what you need to keep a good accountant on your staff and inventory staff. When you run a construction and development business you build up a lot of stuff over a period of years which you need to be able to keep up with. At the end of a contract period the grantor comes in and asks where is it? How did you accomplish this? It's the one thing that they never want to pay for. They expect neighborhoods to run on an overhead of 28 percent while they allow cities and universities to operate on 124 to 190 percent. Thus, at the time of negotiating a contract, one should try to make sure that money is provided for overhead and accounting. Be careful that you are always truthful because neighborhood organizations are audited and audited and audited continually. In cities and big corporations, its very difficult to audit them because their money is coming from every different direction and going into different kinds of pots. The cost of audit would be astronomical. Its easier to just leave them alone and hope everything is going alright. Also, immediate successes are important, so it is necessary to emphasize small successes towards gaining the larger successes.

One of our first successes was sending six women to city hall to get a twenty-five mile zone and a school crossing back after a street maintenance project. They were using our streets for drag races. Before the day was out all the signs were back down there. That was an immediate success. The

second thing we did was to get a house and set up a tutorial program. We didn't think that the schools were taking our kids education seriously. We didn't want our kids to be on welfare like we were so we set up a tutorial program. But our main concern is housing. We have rehabed about 2500-3000 units and we own about 100 units. Our income is about $22,000/month which is unrestructed money. When you negotiate a contract make sure you get enough overhead, because often the grantor will give you just enough money to hang yourself with. Be sure when you negotiate the contract that there is enough money in it to do what you are committed to do. Our efforts have not been easy. We have built houses, factories, apartment complexes. We are just climbing out of an abyss of accounting errors. We've learned a big lesson. If you take nothing else away today, remember what Mr. Perry said.

James Bellus, Director
Department of Planning and Economic Development
St. Paul, Minnesota

The role of city, state and federal governments in this whole issue is at question. From his perspective as a local government official, Mr. Bellus had the following agreements with Mr. Perry:

1) Do not mortgage the future for short term gains.

2) Capacity building is very critical; establish capacity to undertake what you can do.

3) Neighborhood groups and the city are in this together; must have same objectives; city is doomed to failure if it cannot agree that revitalization is important.

DISUSSION

Q. How does an individual or a group keep people involved in projects?

Perry: Businesses that bring employees into partnerships are the most successful i.e. worker participation.

O'Neil: Anything that can be a success should be made a success. Communication has a major role to play.

Q. What is the importance and current status of the Dole/Pickle Act:

Perry: Currently there are ridiculous tax shelter arrangements under which a city may sell its city hall to a developer and lease it back with the developer achieving enormous tax benefits -- developer gets real breaks through depreciation and allowance and the city makes money off the sale -- such an approach is not productive and is at the expense of the U.S. Treasury, but there are other ways that 50 percent tax bracket people can get into a relationship with a development group on a community basis and can really produce something that would not have occurred otherwise. The bill is an attempt to get rid of some of the worst parts of this tax shelter approach, but it may really hurt community groups. The tax legislation was originally developed to help community groups develop new assets, new housing, etc.

Bellus: St. Paul just sold its Civic Center and is now leasing it back. There can be a real public benefit in doing this -- instead of using general obligation bonds to keep local projects, use money from the sale to help with projects and not take money from neighborhoods.

Q. How can cities provide help to a CDC?

Ludlam: Cities should take neighborhoods more seriously. Cities often give outsiders better breaks (tax increment financing etc.). The hardest thing for a neighborhood is getting the same kind of respect.

Q. There is "Buy USA," "Buy Minnesota" ... What about "Buy Locally" to stimulate economic development?

Perry: It is an appropriate strategy but the neighborhood must assess the costs/benefits i.e. if it costs a family 50 cents more for hamburger if bought in the neighborhood versus a mile away at a supermarket, then the strategy is not necessarily good. It must also be determined what goods and services would be affected and how much it would cost the neighborhood.

27. What are the Requirements of Capital Strategies: The "Care and Feeding" of Lenders

Mike Rivard
Finance Packaging Specialist
Minneapolis, Minnesota

Dan Horvath
President
Community Equity Investment, Inc.
Pensacola, Florida

Rivard: The theme of the presentation is the strategy and technique of financing local economic development (LED). LED fits in between the extremes of the spectrum of development financing: short term job creation through title transfers, and well-organized, capital-intensive mega projects. The purpose of LED is different from well-financed, elitist traditional economic development, and also difficult to achieve because of the limitations and nature of development itself. It is characterized by the "experience paradox," i.e. being expected to do something well that was never done before.

A project can be characterized by:

1) Urgency: how urgent is it?
2) Complexity: how complicated is it?
3) Capacity: the ability to marshall resources.

LED groups have several weaknesses:

1) Ill-concevied projects
2) Over-optimism
3) No provision for disappointments and failure

The best process when looking at a project is a 3 or 4 track simultaneous approach:

1) First-cut analysis -- how will this project work? What's wrong with the program?
2) Marketing study
3) Financing study
4) Cost study

The difficulties of development financing are:

1) Loans: Groups usually have a loan program in mind; lenders usually will fund anyone who is organized. The problem then is how does a group get a program put together?

2) Equity/ownership: either from public grants/programs or syndications

3) Technical assistance: either a) do it yourself or get someone to do it for you through a contract; or b) co-venture with an experienced developer.

4) Research: product and market research to see if there is a market for the project.

LED groups must find lenders who are open to doing something new, do "power mapping" to find out who is open to innovations and approach banks and lenders themselves. They must work with lenders to make sure they know what is being done and encourage them to become involved in the LED projects. (For additional information see Development Tools and Resources on page 62).

Rivard believes that all public officials should have the Adaptive Re-use Handbook because there will be thousands of surplus public buildings available providing a real opportunity for neighborhood groups.

City officials are often threatened by neighborhood groups. As such a group, one should find and protect a relationship. The political machine is also threatened when the neighborhood is no longer dependent on politicians anymore. It may be a good idea to keep a low profile. The difficulty is in getting some success so one has a track record. "If you make too much noise you might not have another project."

Horvath: Economic development, as Perry said, is the development of institutions for economic change--institutions for local communities to empower themselves to get some control over the type of development in their local community.

A legal entity must be established through which economic development is formulated (either for-profit or non-profit) so that the organization can own assets, borrow and spend money, negotiate contracts, etc. An asset base can be developed and used to rejuvenate the entity and support programs. Financial viability is essential for survival. When federal funds were slashed, many organizations did not survive. Those that support themselves will survive and become more effective and successful. It is also important to strive for a good track record so that the groups will be taken seriously by local government and lenders.

There are many advantages of having a separate legal entity:

1) Limited liability: do not operate as a loose association of community residents; also get yourself a lawyer; lenders find it easier to deal with a legal entity.

2) Board of Directors operates the entity: it is concerned with specific problems and monitors and focuses activities so that agreed-upon goals are being addressed.

3) Tax benefits: get the right kind of tax, legal and accounting assistance so that the entity is set up and operates properly.

4) Book-keeping and accounting: an essential ingredient of a successful organization is good accounting practices; have a good accounting firm set up and operate the books.

A critical decision that many CDCs must make is whether to be for-profit or non-profit. Horvath believes it can be both, i.e. it can be non-profit with a for-profit subsidiary. There are benefits to be had by being involved

in both. A good lawyer can get the maximum benefits of a non-profit entity whereas banks are used to dealing with for-profit organizations. There is really no restriction to what one can do in terms of program operations within the non-profit/for-profit subsidiary structure. Most community groups do not involve banks in their process, but one should bear in mind that bankers have a stake in social programs too.

Horvath had the following advice for LED groups:

- Protect your interests; when using program funds use tight loan and grant agreements with small businesses, housing groups, individuals, etc; use bank's expertise to protect your collateral.

- Get your borrowers to give you a personal guarantee.

- Tie down how grant money is going to be used.

- The whole institution of community development has been focused on the CDC. CDCs have been around for about 15 years and have been a successful tool for economic development; most CDCs are non-profit but some set up various for-profit subsidiary corporations.

- Use tax structures and other approaches to attract capital so that you are not putting your CDC at a high risk; make your projects attractive tax shelters.

- CDCs allow your community to gain power; try to represent a whole cross-section of a local community.

- Even though Federal Title VII programs are no longer around, CDCs are not a thing of the past; look to state, county and local governments for funding; be flexible enough to change your program so that you fit their requirements. Horvath spent some time giving examples of CDCs in Florida and why they are successful. Other states need to develop programs similar to Florida's Community Development Corporation Support and Assistance Program to help CDCs access capital, provide administrative support, and technical assistance.

- Lobbying is important to help get more funding from the legislature. Do not be afraid to work with the people who run your state CDC programs. They, as bureaucrats, want to get more money for their programs.

REACTOR PANEL

Warren Hanson
Director of Business Development
West Bank Community Development Corporation
Minneapolis, Minnesota

A recently completed study of 15 CDCs in Minnesota supports what Horvath said: small business developments helped create 700 jobs using state funding, and foundation money. Technical assistance was made available to small businesses from CDCs. CDCs are most successful in cottage industries or small retail shops. CDCs can help through the whole process of planning, packaging financing and management of staff. Then CDCs pull back and let the business work.

CDCs often approach development in a ragged way because they do not have administrative support; small staffs pose limitations but this does not mean that they are not effective.

One paradox is that you cannot do economic development without a track record, but have to get a track record. Administrative funding is the key to help CDCs get expertise and this is lacking in Minnesota. Also, there is a real need for more and better seed/venture capital. Most CDCs in Minnesota only have enough capital for small cottage industries. There must be a larger committment in the state for venture capital. CDCs are a good strategy and are working in Minnesota.

Ann Waterhouse
Private Consultant
Minneapolis, Minnesota

Oftentimes the issues that the CDC is concerned about are the same as those that the bank is concerned with; therefore, it pays to develop strong relations with bankers, especially community bankers.

Community organizations often think they can do development less expensively; this is not always the case and sometimes it is better to have consultants.

It is important to build equity early, based not only on grants and loans, but on the community. The cooperative strategy is a good approach.

Al Emory
Deputy Director of Business Revitalization
St. Paul Department of Planning and Economic Development

The management, the people involved in the project, are important. What kind of background, reputation does the management have? Where is the financing coming from? The best source is from the bank that the management has dealt with in the past (either individually/personally or in other group situations). As long as the management has good credibility, use this credibility.

Developing a business plan forces project management to do a plan and then get technical assistance to iron out the problems.

Often the project will have financing gaps:

1) Interest rate too high
2) Inadequate equity
3) Project cost breakdowns are often ignored; make sure contingency funds are available because there will always be cost overruns.

It is a good idea to get involved in "do-able deals" first and get initial results and build up credibility. However, if only one project is involved, forming a CDC may not be advisable.

When working on small businesses, initially concentrate on working with existing types of businesses, or, if working on a new venture, make sure there is a comparable project somewhere else so you can model the financing after it.

DISCUSSION

Q. CDCs are O.K. in urban areas; what about in rural areas?

Horvath: They work in rural areas too: e.g. farm coops; same rules apply in putting together a network of contacts for success.

Rivard: The central dilemma of developing a finance mechanism is the cost of analyzing a project. It takes a lot of good talent to critique a project proposal. The goal is a well conceived project that is workable. Unfortunately, this takes a lot of paperwork. The cost of developing and organizing a project is high, so there is a bias towards large projects.

Q. When should a neighborhood group form a CDC or when should a group that has a venture concept look for a partnership with a CDC?

Rivard: A CDC is good when there are lots of projects to be done; if you are dealing with a random situation, then a CDC is not necessarily a good move.

Waterhouse: Partnership with a CDC should be developed when there are mutual interests and common goals and it is within your best interest to affiliate.

DEVELOPMENT TOOLS AND RESOURCES
Compiled by Mike Rivard

November, 1983

Organizations

Project Management Institute, P.O. Box 43, Drexel Hills, PA 19026.
Urban Land Institute, 1090 Vemront Avenue N.W., Washington, DC 20005.
Institute for New Enterprise Development, P.O. Box 360, Cambridge, MA 02138.
National Economic Development and Law Center, 2150 Shattuck Avenue, Berkeley, CA 94704.
National Development Council, 1421 29th Street N.W., Washington, DC 20007.
Small Business Administration Offices, especially for informational materials.

Activities

Subject matter workshops such as provided by the University of Wisconsin - Extension, Department of Engineering, Madison, WI, on such topics as construction management, project management, construction estimating, etc. The two-day feasibility workshop provided by American Institute of Real Estate Appraisers, Chicago, IL.

Checklists on project planning, American Institute of Architects, by constructions lenders.

Published Information

Monthly magazines including In Business INC.
Urban Land Institute Development Component Series: Fundamentals of Real Estate Development.
An Introduction to Risk Management in Property Development.
Scientific American book, Economic Development, 1980.
James C. Canestaro, Real Estate Financial Feasibility Analysis Workbook, and Handbook, College of Architecture, Virginia Polytechnic Institute and State University.
Community Resource Group, Handbook for Community Economic Development, Superintendent of Documents USGPO 003-011-0086-1.
Council for Northeast Economic Action, Building Local Capacity to Leverage Private Investment, 100 Federal Street, Boston, MA 02110.
Richard C. Belew, How to Negotiate a Business Loan, VanNostrun Reinhold Co.
Robert Buichell, David Listokin, The Adaptive Re-Use Handbook: Procedures to Inventory, Control, Management, and Re-employ Surplus Municipal Properties, The Center for Urban Policy Research, Piskutaway, NJ.
Dennis Rondinelli (Ed), Planning Development Projects, Dowden, Hutchinson and Ross.
Louis Goodman, Ralph Love, (Eds), Project Planning and Management, Integrated Approach, Pergamon Press.
George Honadle and Rudi Klauss, International Development Administration, Praeger.

28. **Community Based Energy and Development Strategies for States**
Paul Wellstone
Governor's Special Representative for Community Energy Projects
Minnesota

Mr. Wellstone began his speech by reading from an essay his father wrote the day after Hiroshima. The global issues of survival and the arms race are still as relevant as ever and bear upon the work of people like Mr. Wellstone. He noted: "I can accept my own mortality, but not the mortality of my children."

The decade of the eighties is going to be a critical one for future writers of history. The decisions that are taken now on issues of political economy and use of resources are going to profoundly affect the survival and mobility of various disadvantaged groups. What kinds of responses to changes that will be made depends on who makes the decisions about questions of benefits, planning and investment, fairness and sacrifices. The only acceptable answer is planning at the community level.

A book co-authored by Mr. Wellstone entitled Powerline raises the issues of "who decides? who benefits? who sacrifices?" in the context of a conflict involving farmers in western Minnesota and powerlines over their farmlands. People are confused about the future and the way to go.

Energy and economic development thus emerges as being critical to economic life and community development. The dominant themes are:

1) A democratic energy policy involving people
2) Decentralization
3) Diversity
4) Self-reliancy and greater local control

In Minnesota, the Governor's Community Energy Program (CEP) is an idea that has been around and now gives the necessary clout to implement policies. Governor Rudy Perpich is interested in energy issues and appropriately so since Minnesota is extremely dependent on imported fuel and vulnerable to increasing energy prices. The issue then is how to reduce that vulnerability and increase control of the energy future in terms of economic activity and development, energy stability, job creation and the building of communities.

The answer, once again, lies in efficient energy use in all its aspects based on policies anchored at the decentralized, community level. Minnesota has started on that path with 16 communities. The response has been immense and helped bring out the vast resources of talents and ideas. People are interested in self-reliance motivated by economic incentives and also a sense of cooperation and dignity.

Minnesota has adopted a soft-path energy policy-interacting with the communities and respectful of the people and the environment through a democratic and decentralized process. Like most successful American programs, the energy program has begun at the grass-roots levels to spread to the local, state and national arena.

The agenda then calls for continued struggle at the local and state level, the reconstruction of grass-roots politics, deomcracy with a small "d," based on reduced discrimination and incorporating fairness and cooperation to build, not a heaven on earth, but a "better earth on earth."

29. **Management Strategies & Techniques: How to Make Money with a Nonprofit Corporation**

Bill Hatton
Economic Development Specialist
Minneapolis, Minnesota

Dan Horvath
President, Community Equity Investment Inc.
Pensacola, Florida

The session began with the following outline presented by Hatton:

A. What the process of development looks like: building capacity, creating support, gaining equity and making profits.

B. Not just techniques, it is politics.

C. Why jobs is not the only issue -- distribution of benefits and empowerment.

   1) Ownership
   2) Management
   3) Jobs

D. What makes an organization viable.

E. Building a support network: making allies out of politicians, bureaucrats, and lenders.

F. Holding your own constituents: how to reduce organizational stress by controlling expectations.

G. Dealing for dollars: making money on your contracts.

A major concern emphasized by Hatton is how energy businesses can relate to a CDC strategy. A CDC can provide nurture and protection for small business by getting preferred deals, etc. On the other hand, this CDC sophistication could alienate the constituency and be a form of "selling out." The discussion that followed dealt with this dilemma.

Q: If you have a good community energy idea, what procedures do you follow to implement it?

Horvath: If you have a CDC, talk to them; it is an excellent resource and a good network to find allies; it can help absorb R & D and marketing costs.

Hatton: A CDC is less likely to swallow you than a regular venture capitalist; the CDC may want a piece of the action, but it does not necessarily want to own all of a new enterprise.

Q: Can a CDC be used for any type of new business?

Hatton: Yes, any, though small arms manufacture is unlikely!

Perry: A word of caution: implication so far is that if you do not have a CDC, go and start one. There are a lot of other people interested in being silent partners in energy-related businesses; still, if there is a CDC, then certainly look to it.

Hatton: Small businesses need nurturance; a CDC is an example of the kind of organization that can provide it and can help you look beyond programmatic money dependence.

Q: How does one go about building equity in a CDC and maintaining long range growth? How about the for-profit subsidiary approach?

Horvath: Community Equity Investment, a Pensacola CDC, invests program funds in a business and works on developing that business to build equity in it; CEI works on establishing a long-term banking relationship, on getting the highest return on deposits, and it invests in stock of new corporations.

Q: Please clarify the CDC business relationship and the creation of for-profit subsidiaries.

Horvath: Banks generally do not want to loan to non-profits; they will, however, lend to capitalized, for-profit subsidiaries

Q: In Chicago, CDCs spun out of Alinsky type organizations; what happens to the question of control when the CDC does not own the whole business?

Horvath: In the early CDCs, the name of the game was control; but the element of entrepreneurship was ignored. CDCs now realize that they have to succeed on a daily basis. Now they are taking minority positions (30-40 percent) in ventures. CDCs can provide capital and technical assistance to help the new business succeed; the entrepreneur has day-to-day control, but CDCs can use the investment agreements as a means of control if the business gets into trouble. CDC stockholders can elect themselves to the board of directors of the business and take over management control if they need to. In general, however,the entrepreneurial spirit is necessary for a business to succeed; the entrepreneur has more at stake.

Rivard: Be aware that if your energy-related small business, with its wider benefits, strictly survives on programmatic funding that can get shut off, the wider benefits will be lost when the business ceases.

Q: How can a CDC maintain its constituency given this new financial role?

Hatton: One thing you can do is take people on a 2-day retreat every year to work on a long-range plan; then stick to that plan throughout the year. This helps the directors to avoid the temptations of short-term opportunism. The executive director must keep the board members in touch with their constituency; one thing is to try quarterly membership meetings.

Horvath: Be aware of the problems of sounding like a banker; seek to maintain your roots.

Hatton: The quarterly meetings can help to keep directors accountable.

Horvath: This all speaks to the importance of planning at all levels: staff, board, membership. Another method is to make sure at least 10 percent of the program capital goes into a grant fund which is directly recycled into the community.

Q: That seems to indicate that the community is something to be continually placated in order to avoid some sort of confrontation; what positive elements does the involvement of the community lend to the CDC process?

Hatton: Most CDCs grow directly out of the community's political activism. CDCs help to educate that community about its political economy. The important thing is to translate political issues that the community raises into specific programs. But this is a problem: programs require technical expertise, the very thing the original issue-raisers sought to avoid; but that is a cop-out. You must learn your business to succeed.

Understand the differing time scales these perspectives imply: political people want immediate delivery of benefits; but it is important to realize that the program development process takes a lot of time.

Q: Still, it seems that some CDCs have adopted the corporate model so much that they lose touch with the community.

Hatton: True, some seem to have done this. You can find people of every political stripe in a CDC.

Rivard: One thing that does distinguish CDCs is their ability to very precisely target community-specific benefits.

Hatton: Even if the CDC is estranged from the community, at least the format is still there to permit community discussion. Still, CDCs are only as good as the people in them. CDCs allow for empowerment, but do not guarantee it. CDCs can do a lot of different things, but they only do what you make them do.

Horvath: The community helps to keep your feet on the ground.

Q: It is very difficult for these community-based energy groups here to have both carpentry/energy expertise and financial expertise on the staff. What is needed is a translator. If I go back, how do I ask to get resources?

Hatton: Do you as a service provider exist within a target area? Are there businesses who need your kind of services in this area? What kind? (Marketing? bookkeeping? promotions? etc.) What kind of gap financing do you need? CDCs can intervene and perhaps negotiate a loan. Do you need venture capital? Look into joint venture arrangements with a CDC. Do you want to negotiate a preferred contractor relationship with your CDC?

Q: What if you are a non-profit in debt? How do you get viable again?

Hatton: See how good your contract is. Maybe it can make you a profit. The CDC might be interested in a loan package and technical assistance in exchange for joint-venture status.

Q: Could one non-profit take over another one in debt?

Horvath: Why would you want to do that? This is a reason for for-profit subsidiaries. Do not forget your suppliers want to do business; they will do it, even if on a C.O.D. basis.

Addresses for help:

National Congress for Community Economic Development
2025 I Street NW
Washington, DC 20006
(202)659-8441

National Economic Development Law Project Report
2150 Shattuck Avenue
Berkeley,CA 94704
(415)548-2600

30. **Panel Discussion: Practical Applications**
Stewart Perry, Mike Rivard, Dan Horvath, Bill Hatton

This session was run as an "open consulting session."

Q: What is the status of CDCs in the Twin Cities?

Hatton: There are several. A good example is the West Bank CDC. St. Paul has a number of organizations akin to CDCs.

Q: What is the difference between an LDC and a CDC?

Hatton: LDC: The SBA 502 program is an example similar to CDCs. Twenty percent of a particular investment issue must be local capital to leverage SBA funding.

Horvath: The defunct 502 program provided long-term financing for plant, machinery, and equipment. The 503 is a similar successor but more attractive to banks.

Rivard: Practical research can help good projects; you need contingency planning, marketing research, economic "gap" analysis.

Q: How do you go about creating a market while you are starting up an energy related business?

Rivard: You do not need good news. You need bad news. You need problem-seekers, e.g. what is going to kill this project? Be prepared for those problems. The problem in an energy related business is that the market is random. Public policy and public funding involved in it give you the illusion of a stable market.

Q: Do you know of any community-based marketing in an area other than energy?

Rivard: Cannot give a direct answer, but we all realize that marketing is truly difficult.

Perry: Brooklyn Energy Co-op seems to be a success in community-based marketing. They seem successful in that they are free-standing, doing more, moving into new areas like housing development and renovation. Now they are called Brooklyn Ecumenical Co-operatives and have a credit union, a revolving construction loan fund, and revolving purchase funds. They will buy buildings and work on providing housing in downtown Brooklyn, which is being developed, and will generate demand for housing and probably gentrification. In sum, the energy co-op has been parleyed into this major program. In Chicago, there is now a marketing co-op, "The Energy Professionals." The loan element messes up the picture; utility based loan programs do not seem to be a good marketing tool.

Comment: A similar program has been canned in Washington state. Weatherization has been slow because the cash flow is not enough to keep it rolling.

Rivard: Weatherization programs have built-in long range problems.

Ron Hick: True. Weatherization does not bring in enough money to be a good business. What exactly is cash flow analysis?

Perry: It is how much you expect to receive and how much you expect to pay out each month. It is a planning tool, like a checking account, and enables you to look ahead to see when you will need money.

Comment: Beware of the transition to computers: is it worth it?

Comment: No matter how good your business plan, political factors enter in; e.g. when Ohio contemplated a statewide weatherization program it seriously affected people's business plans.

Q: Do you have an example of a for-profit weatherization subsidiary?

Horvath: Yes. It was a community action program that had weatherization funds. Rather than just going ahead and hiring crews, the CDC set up a for-profit corporation and took a minority interest in the corporation. It interviewed a number of entrepreneurs and found someone who was a good partner and went with a joint venture with him. He took the controlling position in the venture and the CDC channelled all the contracts through that subsidiary. It worked out very well till the program funds dried up.

Q: It would be interesting to see studies that show why some groups fail and others succeed.

Rivard: Lots of times good intentions do not succeed or there are unintended bad consequences of a certain action. A lot of this is skewed against the poor people. Perhaps some of the public programs have the unintended consequence of setting groups up for failure once the funding runs out.

Q: Could it be, then, that we're trying to do too much at once, and in an anti-business way?

Perry: The structure of the corporation, as such, which provides limited liability to the stockholders, etc., is a social invention which was intended to have a social benefit so that people could do adventurous things with risk protection and thereby serve the public good. We have lost that notion of what the corporation originally was all about. It does not mean that the structure is necessarily exploitative. There is no reason why this structure cannot be used to advance "good" social ethics. The problem is that we rarely plan the way we will run the business to accomplish the social goals at the same time.

Horvath: There is a real world out there and one must learn to deal with it.

Perry: But it is not necessarily so that business and social goals do not mix. Studies are now showing that worker-owned and -managed businesses are more productive than others.

Rivard: Explore the idea of buying out older businessmen; they are looking for a retirement income. A lot of the problems are cultural problems; people are too worried they will get spots if they talk to business people.

Perry: Neighborhoods have a natural business advantage in some of these areas because they know their market and they know what people want locally.

V. NEW MODELS FOR ENERGY SUPPLIES

31. Alternative Energy Authorities: e.g., Municipal Solar Utilities

Barry Saitman
Enterprise Concept Group
Los Angeles, California

The first Municipal Solar Utility (MSU) in California began operation in Santa Clara in 1976. The number has now grown to 48 but they are all unique. The Santa Clara MSU was formed by using reserve water utility funds to buy a solar hot water heating system and leased the equipment out to private citizens (mostly swimming pools). A statewide program was then developed, with 7 cities initially, to see if the Santa Clara case could be replicated. However, each developed along unique lines suitable to their particular situation. Palo Alto's municipally owned utility had a weatherization program extended into low interest loans; Oceanside had no reserve funds to go into a leasing operation like Santa Clara and so decided to act as a broker to stimulate demand and regulate quality of leasing that the private sector supplied. The communities that joined the second phase of the statewide program drew on the earlier models: for example, Monterey Park combined Palo Alto-type loan program with Oceanside-type leasing.

The communities tried other structures such as CDCs, public authority districts, cooperatives, etc. with varying degrees of success but found that it helped most where the city had direct responsibility for one program element. A good example is rural Humboldt County; they found that a population of 100,000 was a market threshold and therefore cities combined to form a non-profit organization which serves as broker to contract out MSU services.

Energy, however, is a means to some other ends, chiefly jobs and economic development. The city of Fairfield had lost a major industry because the PG&E system was too unstable. Fairfield wanted to become a municipal utility but PG&E would not sell. Their solution was to build some energy production facilities with a wind turbine developer. However, the cash-flows did not look good so they adopted a third party approach with long term debt financing and favorable interst rates.

What does a good program look like? The program must be perceived as a legitimate business, people must be told the risks and then those risks mitigated. the benefits of the programs must be demonstrated, and the program must strive for financial viability and not shy away from profits.

The idea of community energy authority is broader than MSUs: it encourages people to think in terms of production as well as consumption. In California, this dual role required special legislation based on the earlier Community Housing Authorities developed in the 1950s and giving cities charters.

This dual role ties into broader economic development issues by decreasing consumption and increasing local energy production, affects jobs and taxes, invariably increases the quality of life and community services. The lessons of the California MSUs are: learn to spot opportunities and assess resources, be business-like and tie into goals of economic development with energy as one of the means.

Q: What is the best source of capital?

A: The best is private debt or, even better, equity. This can be used to leverage public money. Other sources would be bonds, but the transaction costs are prohibitive unless the amount involved is around $15 - 20 million.

32. Coordinated Bulk Purchasing Strategies

Steve Cowell
Director, Economic Development Department
Massachusetts Fair Share
Boston, Massachusetts

Massachusetts Fair Share (MFS) is a large (150,000 members) state-wide citizens' organization involved in economic development with energy mobilization as a strategy. It uses energy savings to provide quick, tangible "empowerment" to people and to demonstrate the causal relationship between effort and effect.

MFS concerned with a variety of community efforts around energy, received a $2.5M state grant to replicate a project that was successful elsewhere. It soon realized that resources in terms of people and neighborhood groups, statewide service delivery networks, and the government programs were working in isolation and often duplicated efforts. The various groups — the energy coops, neighborhood groups, RCS program contractors — got together and decided that a community based system working together could reap social externalities not available through the conventional market mechanism. Another motivation was to reduce dependence on the "grant economy"

and the frustrating experience of living from grant to grant. What was needed was the nurturing of a public-private strategy that evened out cash-flows.

The process begins with an analysis of the market for fuels and conservation. It is divided into three segments:

1) Private market: (e.g. conservation) uncertain
2) Public market: grant economy
3) Utilities: undefined and unpredictable.

These markets are served by municipalities, non-profit coops, oil dealers, utility companies, small and large contracors, wholesale firms and manufacturers supplying goods and services which include education, grants, audits, alternative fuels, retrofits (materials and tools), contracting, fuels (oil, wood, electric) and financing (banker, innovative third-party financing, etc.)

The tactic that was adopted is bulk purchasing of conservation materials, and, later, fuel.

Before embarking on the program, the costs must be looked at in a disaggregated fashion in terms of fixed and variable: labor, training, marketing, capital, overheads (administrative, fiscal) materials, equipment and insurance. To operate in the market, the non-profit community organization must seek ways of lowering costs which are usually high because non-profits are typically small. Some of the ways are increasing the size of the market, increasing market share, technical assistance from other projects, policy and organization and by raising capital.

The strategy in bulk purchasing aims at horizontally (many services linked together such as education, audits, sales, financing, contracting, fuels), vertically (going from the sub-retail to retail to wholesale to manufacturers), as well as geographically, integrating the market to reduce costs and offer benefits to members.

With these considerations, MFS formed Energy Federation Inc. (EFI) with 5 non-profit energy coops as the founding members. It incorporated its own subsidiary wholesale firm which does all purchasing, handles inventory and warehousing, coordinates research and development (R & D) activities, and undertakes centralized bidding to reduce wastage by all the member organizations previously doing identical things in isolation.

The advantages of a coordinated approach lies in volume, the ability to leverage small purchases on top of large ones and, inventory maneuverability. A 5 percent markup is used to finance the operation and buy inventories which even out shortfalls of member communities.

The program has resulted in benefits which include a 50 percent lower cost figure, increased flexibility, revenue generation, (which is ploughed back half-and-half into inventories and technical assistance), and decentralized R & D.

Start-up capital and resources were provided by member organizations in line with their particular strengths.

In the first phase, bulk purchasing included weatherization and conservation materials. But soon, EFI went into bulk purchasing of fuel oil with similar pricing and operating systems. It was prompted by the larger market benefits to be derived and also to allow for stability which is absent in the cyclical weatherization market. Projections are that about 5,000 - 6,000 people will be served this winter with EFI netting about $50,000 which can then be used for third party financing of alternative energy sources and conservation. Last winter, members paid 35 cents/gallon less than the market price.

Some of the pitfalls to avoid in replicating such a program are:

1) Over-expansion too quickly
2) Appropriate product/service selection
3) Capital deficiency
4) Disempowerment and alienation of grass-roots members in decision making

More information can be obtained from:

The Energy Federation, Inc.,
36 Concord Street
Farmingham, MA 01701. (617)879-8572

33. **Small Scale Energy Producers, PURPA and Utilities**
Mike Rogers, Engineer
Northern States Power Company
Minneapolis, Minneapolis

This presentation will briefly discuss NSP's present interconnection policy for wind, hydroelectric and solar generation, and NSP's research on wind power.

NSP's interconnection policy is administered by the Service Policy Department which currently offers three different types of contracts to customers with own generation:

1) Energy sale: net billing method
2) Purchase and sale billing option
3) Time of day energy delivery service for peak and off-peak hours: differential rates

The first is by far the most important. Customers receive 5.71 cents/KWH(less meter and other charges) for any net supply to NSP.

There are several requirements that the customer must meet for a parallel connection:

1) Dual meters (that run in one direction only) required by both NSP and PUC to measure what is purchased and sold. (Meters that run in both directions are inaccurate and short-lived).

2) A safety disconnect switch accessible to NSP.
3) Customer provides second meter and pays charges for the other.
4) A $300,000 liability insurance on customer's home-owner policy to protect against damages to the distribution system (about $20/year).
5) System must be deemed to be safe by NSP. It must be able to disconnect itself in case of failure by either party (an infrequent occurrence).
6) The customer must bear all additional costs due to the interconnection (e.g. upgrading of a transformer).
7) Both parties must sign a contract.

So far, 13 wind generators have been interconnected with NSP, representing a very small intrusion.

Comment: The limits to the amount of power that can be sold to the utility depends on the contract. New limits require new contracts.

Q: What are typical costs for a wind generator?

A: The wind generator (a Jacob's Wind Machine) operated jointly by NSP, University of Minnesota, and Control Data Corporation cost $22,000 including installation and interconnection.

Q: Are there economies of scale, i.e. is it cheaper to operate 16 50MW wind plants or one 800 MW conventional generator?

A: Wind generators are unreliable and should be backed up with conventional generators. They are also expensive to maintain and are not efficient economically.

Q: Will PURPA have significant effects in the future?

A: Yes, but it depends on the location.

NSP's wind research was highlighted with a slide presentation. NSP has sited 15 monitors to assess wind resources within the region it serves (Minnesota, Wisconsin and the Dakotas). It also assesses the performance of available customers. It employs various geographic, meteorological and non-physical criteria to choose the sites where it sets up monitoring equipment.

NSP has also been gathering data from a wind generator experiment in collaboration with the University of Minnesota and Control Data Corporation. It feeds back about 560 KWH/month into the NSP system.

NSP's future wind research will depend on the results from the ongoing Wind Resource Program.

34. St. Paul Home Grown Economy Project

Dick Broeker
Executive Assistant to the Mayor
St. Paul, Minnesota

Given the global and domestic disarrays (as exemplified by the headlines of the day's newspaper), what can be done to make a difference locally? Whatever it is, it is not writing UDAGs and chasing smokestacks.

The seeds of the St. Paul Home Grown Economy Project were in the raising of consciousness levels provoked by four energy issues in 1977/78:

1) The possibilities of a garbage burning plant.

2) State of Minnesota's interest in a local hot water district heating system.

3) The need for a moratorium on fuel cut-offs for the local poor.

4) Control Data Corporation's newly constructed worldwide distribution center housing the largest commercial solar collectors in the country.

The process of going through these issues led St. Paul to the realization that it needed to know much more about energy. Programming began in 1978 with the energy mobilization program out of which came these projects:

1) District heating
2) Energy Park
3) Weatherization Program
4) Bike lockers in front of City Hall

These in turn started St. Paul thinking about the local economy and begin working with David Morris and incorporating concepts developed by people like Jane Jacobs (cf. Economy of Cities). In 1978, the city did not have an overall economic development plan. In the process of writing one, it began assessing how best to use its resources, which resulted in expanded and vigorous roles for the Department of Planning and Economic Devlopment and the St. Paul Port Authority.

What then is the Home Grown Economy Project? It is best described by listing the characteristics of the businesses it wants to attract, keep, or help expand.

1) Local ownership
2) Creation of skilled jobs
3) Diversified industrial base: many small plants rather than one big one
4) High industry interrelationships with good multiplier effects
5) Businesses that do the most for the city of St. Paul: e.g. local growers
6) Community or employees as shareholders
7) Tax dollars generation
8) Businesses that bring in capital rather than export it

The biggest and most obvious examples are the District Heating System and the Energy Park. But the city is also looking for the small businesses that add up in the aggregate.

Q: What about seed money?

A: The city is trying to take all available money and put it into the context of the Home Grown Economy Project. They do not make grants as such, nor are they interested in artificial subsidies (this would be self-defeating); rather, they mostly make available loan funds.

Q: What about targeting? Any business other than energy?

A: Yes, energy is a natural. Other businesses do seem natural for St. Paul, though, e.g. brewers, growers, etc.

Q: How extensive should a new business prospectus be?

A: It varies. The city has helped all kinds of businesses. A lot of technical assistance time is donated.

35. **Synthesis Panel: What are our Directions for the Future?**
Dennis Livingston
Baltimore Jobs and Energy Coalition
Baltimore, Maryland

Gary Dodge,
Vice President, MN Cleo
St. Paul, Minnesota

Angie McCaffrey
Lexington Hamline CDC
St. Paul, Minnesota

Rich Mahony
Aide to Mayor Latimer
St. Paul, Minnesota

Moderator: Fred Smith
CURA
University of Minnesota

Smith started off the synthesis panel discussion by noting that the survival and growth of energy conservation programs depend on their being economically sustainable. Also, we are making the transition from energy conservation to local alternative forms of energy generation. Again this involves important economic strategy questions. The most appropriate organizational form to accomplish these goals remains arguable.

McCaffrey stressed that the ideals of self-sufficiency in an urban situation can be achieved through cooperation with the neighborhood groups as the delivery mechanism and energy conservation concerns as one of the focal points. Strong neighborhood groups must pursue a strong action program with

activities like weatherization, tools and resource libraries, workshops, etc. Also, they must continue to push for favorable local and national policies and strengthen themselves through networking and coalitions, and they must police the laws that result from these favorable policies. She also saw the role of public utilities as that of working closely with neighborhood goals. Finally, the groups must never lose their grass-roots support.

Dodge first pointed out the CLEO network that already exists. He then talked about the dilemma that arises in conceptually defining a community or neighborhood, with federal and local level perspectives diverging. A small town is also a community and wields political power. Yet in a large city, the neighborhoods are communities, and even though larger than most small towns, have no comparable claims to political power. In a situation of tension created by political pulling and tugging with city hall, how does one involve the government in achieving community goals? This points to the need to define communities in a non-spatial, functional sense (e.g. ethnic, an Indian community development corporation etc.).

The Twin Cities are providing an interesting experiment in different models of community development: while Minneapolis has chosen to implement its energy conservation program without using neighborhood groups, St. Paul has explicitly utilized neighborhoods. Soon, it will be possible to say which city has achieved more. Further, it would be interesting to find out which model strengthens the neighborhoods more.

Finally, more state and city fostering of CDCs and community groups—training, information, technical assistance, skill development activities-- is in order to avoid islands of development. Somebody has to undertake the backstopping role of organizing the local interests. But once again, the dichotomy between local groups and political jurisdiction is an obstacle.

Mahony followed up on Mr. Broeker's earlier presentation (Session 34) on the St. Paul Home Grown Economy Project. The project was conceptualized on the basis of Minnesota's import-export matrix along the following lines:

- Extraction of the maximum value from local resources
- Retention of capital
- Import substitution: only 15 cents of every dollar spent on energy remains in the local economy
- Local ownership and participation
- Backward linkages
- Multiplier effects
- The city's role as a catalytic agent

Livingston made the well-received observation that energy is not merely a technical nor an economic problem but a political one. A good energy policy is not enough: the practitioners must have a political focus. Because of the distributional aspects of these policies, a political aim is needed for positive alternatives. Also needed is a consortium of interested groups: a

non-competing, cooperative, national network that will work as a clearing-house for sharing resources and experience. A national network should be structured to respond to the needs of local memberships by putting together a list of analyses of case histories, by being able to hook onto existing institutions, by responding to national legislative policies, by forming global ecological linkages, and by forming alliances of groups with the same concerns.

DISCUSSION

Comment: The ideal of self-reliance is not new but part of the American tradition. Neighborhoods need not find the CDC concept a foreign one.

Q: Can Mr. Livingston's suggestion for a national network be turned into anything specific?

Livingston: A dialogue must be begun. Perhaps the conference organizers can be a clearing house. I hope this conference will happen again next year and that we will be able to continue on from here.

Morris: Few national networks get beyond setting it up. They require a lot of work to maintain. More than the network system, there must be input of good data by all "stringers." The Control Data Corporation's LOGIN network could be explored.

Comment: I was pleased to hear about St. Paul's emphasis on food production as well as energy. We've got to be involved in community gardens, greenhouses, etc.

Dodge: Southern Minnesota is a major food export area for the state, something which we are seldom aware of. As consumers we usually do not deal at all with this tier of the food economy in the state.

Smith: Time is up. A concluding bit of advice from a poster seen recently: Learn to eat problems for breakfast.

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